



# USER GUIDE



ADSL2 BARRICADE™

4-Ports Wireless Annex A ADSL/ADSL2 Modem Router

**SMC7904WBRA4**

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# 1 Introduction

The SMC7904WBRA4 supports multiple line modes. It provides four 10/100 base-T Ethernet interfaces at the user end. The device provides high-speed ADSL broadband connection to the Internet or Intranet for high-end users, such as net bars and office users. The device provides high performance access to the Internet, downlink up to 24 Mbps and uplink up to 1 Mbps.

The device supports WLAN access, as WLAN AP or WLAN router, to the Internet. It complies with IEEE 802.11, 802.11b/g specifications, and WEP, WPA and WPA2 security specifications.

## 1.1 Packing List

- 1 x SMC7904WBRA4
- 1 x external splitter
- 1 x power adapter
- 2 x telephone cables (RJ-11)
- 1 x Ethernet cable (RJ-45)
- 1 x Quick Installation Guide (QIG)
- 1 x driver and utility software CD

## 1.2 Safety Cautions

Follow the following instructions to protect the device from risks and damage caused by fire or electric power:

- Use volume labels to mark the type of power.
- Use the power adapter that is packed within the device package.
- Pay attention to the power load of the outlet or prolonged lines. An overburden power outlet or damaged lines and plugs may cause electric shock or fire accident. Check the power cords regularly. If you find any damage, replace it at once.
- Proper space left for heat dissipation is necessary to avoid any damage caused by overheating to the device. The long and thin holes on the device are designed for heat dissipation to make sure the device works normally. Do not cover these heat radiant holes.
- Do not put this device close to a place where a heat source exists or high temperature occurs. Avoid the device from direct sunshine.
- Do not put this device close to a place where is over damp or watery. Do not spill any fluid on this device.
- Do not connect this device to any PC or electronic product, unless our customer engineer or your broadband provider instructs you to do this, because any wrong connection may cause any power or fire risk.
- Do not place this device on an unstable surface or support.

## 1.3 LED and Interface

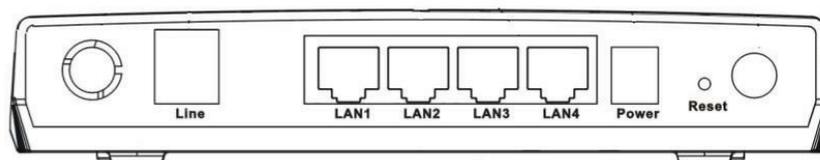
## Front panel



The following table describes the LEDs of the device.

LED	Status	Color	Description
Power	On	Green	The device is powered on and the initialization is normal.
	Off		The device is powered off.
	On	Red	The device is initializing.
	Blinks		The firmware is upgrading.
Link	On	Blue	The Internet connection is normal.
	Blinks		Data is being transmitted on the Internet.
	Off		The Internet connection is failed.
WLAN	On	Green	The WLAN connection is established.
	Blinks		Data is being transmitted through the WLAN interface.
	Off		The WLAN connection is failed.
LAN4/LAN3/LAN2 /LAN1	On	Green	The LAN connection is normal and active.
	Blinks		Data is being transmitted through the Ethernet interface.
	Off		The LAN connection is failed.

## Rear panel



The following table describes the interfaces of the device.

Interface	Function
	Power switch, power on or power off the device.
Reset	Resets to the factory defaults. To restore factory defaults, keep the device powered on and push a paper clip into the hole. Press down the button over 5 seconds, then release.
Power	Power interface, for connecting to the power adapter of 12 V DC, 1 A.
LAN1/LAN2/LAN3 /LAN4	RJ-45 interface, for connecting to the Ethernet interface of the PC or the Ethernet devices with the cable.
Line	RJ-11 interface, for connecting to the ADSL interface or a splitter through the telephone cable.

Interface	Function
	The button of the antenna.

## 1.4 System Requirements

Recommended system requirements are as follows:

- A 10/100 base-T Ethernet card is installed on your PC
- A hub or Switch. (attached to several PCs through one of Ethernet interfaces on the device)
- Operating system: Windows 98SE, Windows 2000, Windows ME, Windows XP or Windows Vista
- Internet Explorer V5.0 or higher, Netscape V4.0 or higher, or firefox 1.5 or higher

## 1.5 Features

The device supports the following features:

- Various line modes
- External PPPoE dial-up access
- Internal PPPoE and PPPoA dial-up access
- Leased line mode
- Zero installation PPP bridge mode (ZIPB)
- 1483B, 1483R, and MER access
- Multiple PVCs (eight at most) and these PVCs can be isolated from each other
- A single PVC with multiple sessions
- Multiple PVCs with multiple sessions
- Binding of ports with PVCs
- 802.1Q and 802.1P protocol
- DHCP server
- NAT and NAPT
- Static route
- Firmware upgrade: Web, TFTP, and FTP
- Reset to factory default
- DNS relay
- Virtual server
- DMZ
- IP address mapping
- Two-level passwords and user names and six accounts (at most)
- Web interface
- Telnet CLI
- System status display

- PPP session PAP and CHAP
- IP filter
- IP QoS
- Remote access control
- Line connection status test
- Remote management (telnet and HTTP)
- backup and restore of configuration file
- Ethernet interface supports crossover detection, auto-correction and polarity correction
- UPnP

## 2 Hardware Installation

**Step 1** Connect the **Line** interface of the device and the **Modem** interface of the splitter through a telephone cable. Connect the phone to the **Phone** interface of the splitter through a cable. Connect the incoming line to the **Line** interface of the splitter.

The splitter has three interfaces:

- **Line:** Connect to a wall phone jack (RJ-11 jack)
- **Modem:** Connect to the ADSL jack of the device
- **Phone:** Connect to a telephone set.

**Step 2** Connect the **LAN** interface of the device to the network card of the PC through an Ethernet cable (MDI/MDIX).



**Note:**

Use twisted-pair cables to connect with the hub or switch.

**Step 3** Plug one end of the power adapter to the wall outlet and connect the other end to the **PWR** interface of the device.

### Connection 1

Figure 1 displays the application diagram for the connection of the router, PC, splitter and the telephone sets, when no telephone set is placed before the splitter.

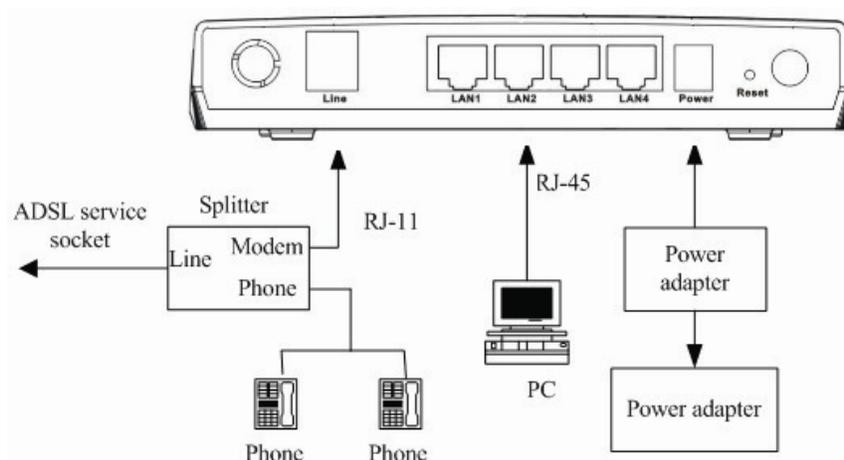


Figure 1 Connection Diagram (without connecting telephone sets before the splitter)

### Connection 2

Figure 2 displays the application diagram for the connection of the router, PC, splitter and the telephone sets, when a telephone set is placed before the splitter.

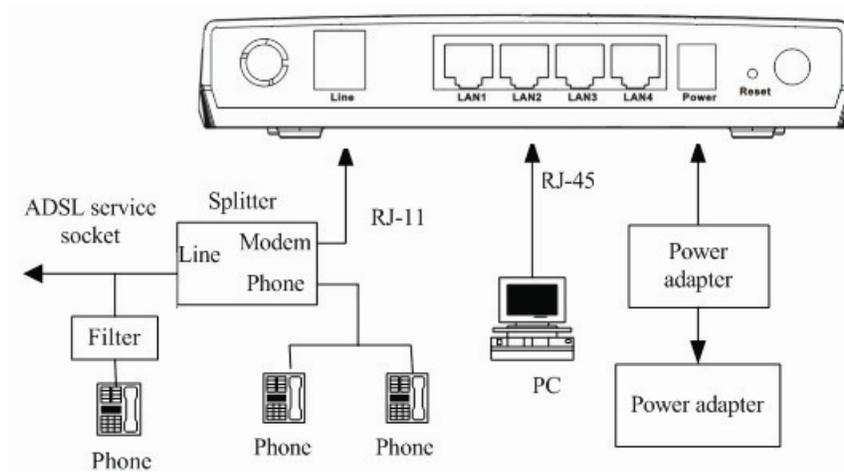


Figure 2 (with a telephone set before the splitter)

In the actual application, connection 1 is recommended.



**Note:**

When connection 2 is used, the filter must be installed close to the telephone lines. Do not use the splitter instead of the filter.

Installing a telephone directly before the splitter may lead to a failure of connection between the device and the office central, or cannot access into the Internet, or slow the connection speed. If you really need to add a telephone set before the splitter, you have to add a microfilter before connecting to a telephone set. Do not connect several telephones before the splitter. Do not connect several telephones with the microfilter.

## 3 About the Web Configuration

This chapter describes how to configure the router by using the Web-based configuration utility.

### 3.1 How to Access the Router

The following is the detailed description of accessing the router for the first time.

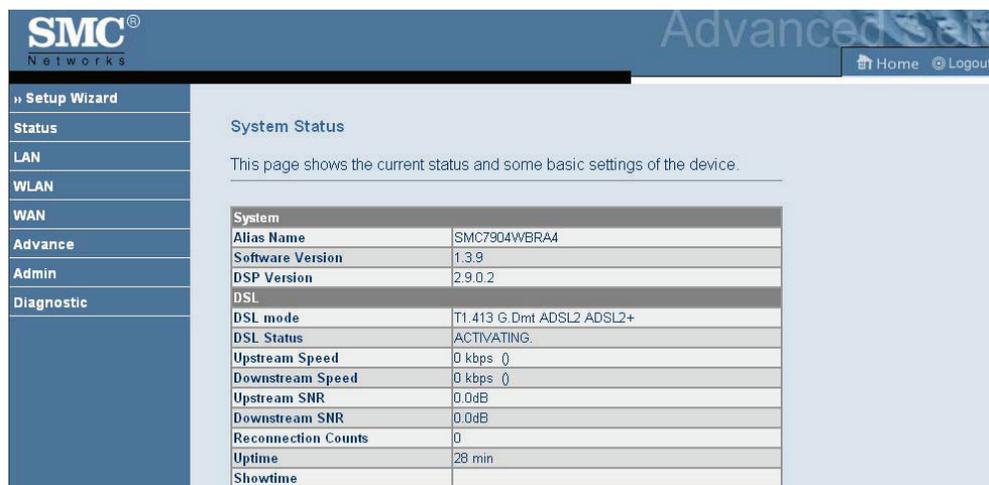
**Step 1** Open the Internet Explorer (IE) browser and enter <http://192.168.2.1>.

**Step 2** In the **LOGIN** page that is displayed, enter the username and password.

- The username and password of the super user are **admin** and **smcadmin**.
- The username and password of the common user are **user** and **user**.



If you log in as the super user, the page shown in the following figure appears. You can check, configure and modify all the settings.



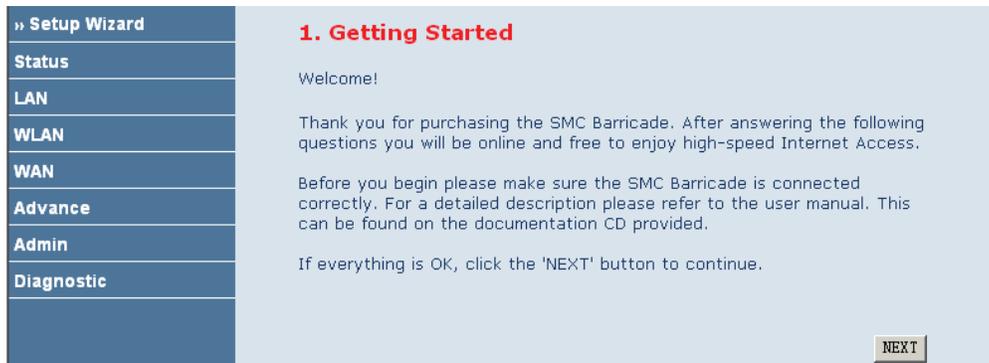
System	
Alias Name	SMC7904WBRA4
Software Version	1.3.9
DSP Version	2.9.0.2
DSL	
DSL mode	T1.413 G.Dmt ADSL2 ADSL2+
DSL Status	ACTIVATING
Upstream Speed	0 kbps ()
Downstream Speed	0 kbps ()
Upstream SNR	0.0dB
Downstream SNR	0.0dB
Reconnection Counts	0
Uptime	28 min
Showtime	

If you log in as a common user, you can check the status of the router, but can not change the most of the settings.

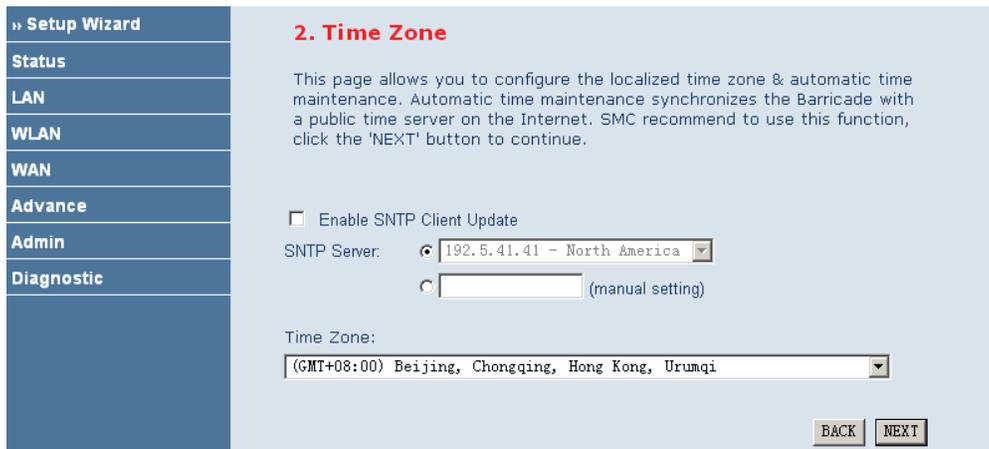
### 3.2 Setup Wizard

In the navigation bar, choose **Setup Wizard**. In the **Setup Wizard** page, you can configure the VPI/VCI number. The **Setup Wizard** page guides fast and accurate configuration of the Internet connection and other important parameters. The following sections describe these various configuration parameters. Whether you configure these parameters or use the default ones, click **NEXT** to enable your Internet connection.

When subscribing to a broadband service, you should be aware of the method by which you are connected to the Internet. Your physical WAN device can be either PPP, ADSL, or both. The technical information about the properties of your Internet connection is provided by your Internet Service Provider (ISP). For example, your ISP should inform you whether you are connected to the Internet using a static or dynamic IP address, and the protocol that you use to communicate on the Internet.



Click **NEXT**, the page shown in the following page appears. In this page, you can set the system time manually or get the system time from the time server.



Click **NEXT**, the page shown in the following page appears. In this page, you can configure the wireless SSID, wireless mode and channel number.

The following table describes the parameters of this page.

Field	Description
(Root) SSID	
SSID BroadCase	
Wireless Mode	
Channel Number	

After configuring the wireless settings, click **NEXT**. The page shown in the following figure appears. In this page, you can configure the ADSL settings.

The following table describes the parameters and buttons in this page.

Field	Description
Country	Select the country in which you are in.
Internet Service Provider	Select your ISP.
Protocol	Select the protocol. You can choose <b>PPPoE</b> , <b>PPPoA</b> , <b>Dynamic IP</b> , <b>Static IP</b> , <b>Bridge</b> , or <b>1483 Route</b> .
Connection Type	Select the connection type provided by your ISP from the drop-down list box.

	You can choose <b>LLC</b> or <b>VC-Mux</b> .
VPI	The virtual path between two points in an ATM network, and its valid value is from 0 to 255.
VCI	The virtual channel between two points in an ATM network, ranging from 32 to 65535 (0 to 31 is reserved for local management of ATM traffic).

Before you configure the protocol, you must select the country in which you are in and your ISP.

## PPPoE

If the uplink equipment supports the **PPPoE** protocol, you can set the device to initiate the PPPoE dialup.

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

**» Setup Wizard**

**Status**

- » System
- » LAN
- » WLAN
- » WAN
- » Port Mapping

**Statistics**

- » ARP Table

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

## WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_R_8_35	8/35	LLC	PPPoE			down 0sec / 0sec
<b>Default Gateway</b>						
<b>DNS Servers</b>						

## PPPoA

If the uplink equipment supports the **PPPoA** encapsulation, you can set the device to initiate the PPPoA dialup.

**» Setup Wizard**

**Status**

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

## 4. ADSL Settings

This page allows you to configure the ADSL settings. A predefined list of countries & Internet Service Providers (ISP) is available for easy configuration.

- Select Country.
- Select ISP.

Note: If Country or ISP is not listed select 'Other'. You will be required to manually select the Protocol & fill in blank fields. For correct values contact your ISP.

- Enter required values.
- Click 'Next' to continue

Country	Others	
Internet Service Provider	Others	
Protocol	PPPoA	
Connection Type	LLC	
VPI	0	(0-255)
VCI	35	(32-65535)
Username	SMC	
Password	••••	
Confirm Password	••••	

**BACK** **NEXT**

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

**» Setup Wizard**

**Status**

LAN

WLAN

WAN

Advance

Admin

Dagnostic

### 5. Summary

This page displays a summary of the values configured. Check the values are correct and click 'FINISH' to complete the set-up. To modify any values click 'BACK'.

After clicking 'FINISH' the Barricade will save settings & reboot. When complete the 'Status' page will be displayed.

Wireless Parameters:

Wireless Network Name (SSID) :	adsl-002222
SSID Broadcast :	Enable
Wireless Mode :	2.4 GHz (B+G)
Channel Number :	auto

Time Zone Parameters:

NTP :	Disabled
Time Zone :	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

ADSL operation mode (WAN):

VPI / VCI :	0 / 35
Protocol :	PPPoA
Connection Type :	LLC
Username :	SMC
Password :	****

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

**» Setup Wizard**

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

LAN

### WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_R_0_35	0/35	none	PPPoA			down 0sec / 0sec
<b>Default Gateway</b>						
<b>DNS Servers</b>						

## Dynamic IP

If the uplink equipment supports the **Dynamic IP** protocol, you can set the device to initiate the dynamic IP dialup.

**» Setup Wizard**

**Status**

LAN

WLAN

WAN

Advance

Admin

Dagnostic

### 4. ADSL Settings

This page allows you to configure the ADSL settings. A predefined list of countries & Internet Service Providers (ISP) is available for easy configuration.

- Select Country.
- Select ISP.

Note: If Country or ISP is not listed select 'Other'. You will be required to manually select the Protocol & fill in blank fields. For correct values contact your ISP.

- Enter required values.
- Click 'Next' to continue

Country	Others	
Internet Service Provider	Others	
Protocol	Dynamic IP	
Connection Type	LLC	
VPI	0	(0-255)
VCI	88	(32-65535)

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

**» Setup Wizard**

**Status**

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

### 5. Summary

This page displays a summary of the values configured. Check the values are correct and click 'FINISH' to complete the set-up. To modify any values click 'BACK'.

After clicking 'FINISH' the Barricade will save settings & reboot. When complete the 'Status' page will be displayed.

Wireless Parameters:

Wireless Network Name (SSID) :	adsl-002222
SSID BroadCase :	Enable
Wireless Mode :	2.4 GHz (B+G)
Channel Number :	auto

Time Zone Parameters:

NTP :	Disabled
Time Zone :	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

ADSL operation mode (WAN):

VPI / VCI :	9 / 88
Protocol :	Dynamic IP
Connection Type :	LLC

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

**» Setup Wizard**

**Status**

**» System**

**» LAN**

**» WLAN**

**» WAN**

**» Port Mapping**

**Statistics**

**» ARP Table**

### WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_R_9_88	9/88	LLC	mer1483			down
<b>Default Gateway</b>						
<b>DNS Servers</b>						

## Static IP

If the uplink equipment supports the **Static IP** protocol, you can set the device to initiate the static IP dialup.

**» Setup Wizard**

**Status**

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

### 4. ADSL Settings

This page allows you to configure the ADSL settings. A predefined list of countries & Internet Service Providers (ISP) is available for easy configuration.

- Select Country.
- Select ISP.

Note: If Country or ISP is not listed select 'Other'. You will be required to manually select the Protocol & fill in blank fields. For correct values contact your ISP.

- Enter required values.
- Click 'Next' to continue

Country	Others
Internet Service Provider	Others
Protocol	Static IP
Connection Type	LLC
VPI	9 (0-255)
VCI	88 (32-65535)
IP Address	10.12.103.20
Subnet Mask	255.255.255.0
Default Gateway	10.12.103.1
Primary DNS Server	172.24.11.10

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

» Setup Wizard

**Status**

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### 5. Summary

This page displays a summary of the values configured. Check the values are correct and click 'FINISH' to complete the set-up. To modify any values click 'BACK'.

After clicking 'FINISH' the Barricade will save settings & reboot. When complete the 'Status' page will be displayed.

Wireless Parameters:

Wireless Network Name (SSID) :	adsl-002222
SSID Broadcast :	Enable
Wireless Mode :	2.4 GHz (B+G)
Channel Number :	auto

Time Zone Parameters:

NTP :	Disabled
Time Zone :	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

ADSL operation mode (WAN):

VPI / VCI :	9 / 88
Protocol :	Static IP
Connection Type :	LLC
IP Address :	10.12.103.20
Subnet Mask :	255.255.255.0
Default Gateway :	10.12.103.1
Primary DNS Server :	172.24.11.10

BACK FINISH

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

» Setup Wizard

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

### WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_R_9_88	9/88	LLC	mer1483	10.12.103.20	10.12.103.1	down
<b>Default Gateway</b>	10.12.103.1					
<b>DNS Servers</b>	172.24.11.10					

## Bridge

If the uplink equipment supports the **Bridge** protocol, you can set the device to initiate the bridge dialup.

» Setup Wizard

**Status**

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### 4. ADSL Settings

This page allows you to configure the ADSL settings. A predefined list of countries & Internet Service Providers (ISP) is available for easy configuration.

- Select Country.
- Select ISP.

Note: If Country or ISP is not listed select 'Other'. You will be required to manually select the Protocol & fill in blank fields. For correct values contact your ISP.

- Enter required values.
- Click 'Next' to continue

Country	Others	
Internet Service Provider	Others	
Protocol	Bridge	
Connection Type	LLC	
VPI	0	(0-255)
VCI	32	(32-65535)

BACK NEXT

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

**» Setup Wizard**

**Status**

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### 5. Summary

This page displays a summary of the values configured. Check the values are correct and click 'FINISH' to complete the set-up. To modify any values click 'BACK'.

After clicking 'FINISH' the Barricade will save settings & reboot. When complete the 'Status' page will be displayed.

Wireless Parameters:

Wireless Network Name (SSID) :	adsl-002222
SSID BroadCase :	Enable
Wireless Mode :	2.4 GHz (B+G)
Channel Number :	auto

Time Zone Parameters:

NTP :	Disabled
Time Zone :	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

ADSL operation mode (WAN):

VPI / VCI :	0 / 32
Protocol :	Bridge
Connection Type :	LLC

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

**» Setup Wizard**

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_B_0_32	0/32	LLC	br1483			down
<b>Default Gateway</b>						
<b>DNS Servers</b>	172.24.11.10					

## 1483 Route

If the uplink equipment supports the **1483 Route** protocol, you can set the device to initiate the 1483 route dialup.

» Setup Wizard

Status

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### 4. ADSL Settings

This page allows you to configure the ADSL settings. A predefined list of countries & Internet Service Providers (ISP) is available for easy configuration.

- Select Country.
- Select ISP.

Note: If Country or ISP is not listed select 'Other'. You will be required to manually select the Protocol & fill in blank fields. For correct values contact your ISP.

- Enter required values.
- Click 'Next' to continue

Country	Others	
Internet Service Provider	Others	
Protocol	1483Route	
Connection Type	LLC	
VPI	8	(0-255)
VCI	35	(32-65535)
IP Address	10.12.102.30	
Subnet Mask	255.255.255.0	
Default Gateway	10.12.102.1	
Primary DNS Server	172.24.11.10	

BACK NEXT

After finishing the settings, click **NEXT**. The page shown in the following figure appears.

» Setup Wizard

Status

LAN

WLAN

WAN

Advance

Admin

Diagnostic

### 5. Summary

This page displays a summary of the values configured. Check the values are correct and click 'FINISH' to complete the set-up. To modify any values click 'BACK'.

After clicking 'FINISH' the Barricade will save settings & reboot. When complete the 'Status' page will be displayed.

Wireless Parameters:

Wireless Network Name (SSID) :	adsl-002222
SSID BroadCase :	Enable
Wireless Mode :	2.4 GHz (B+G)
Channel Number :	auto

Time Zone Parameters:

NTP :	Disabled
Time Zone :	(GMT+08:00) Beijing, Chongqing, Hong Kong, Urumqi

ADSL operation mode (WAN):

VPI / VCI :	8 / 35
Protocol :	1483 Route
Connection Type :	LLC
IP Address :	10.12.102.30
Subnet Mask :	255.255.255.0
Default Gateway :	10.12.102.1
Primary DNS Server :	172.24.11.10

BACK FINISH

If you ensure the configuration is correct, click **FINISH**. Then the configuration takes effect. You can check the configuration in the **WAN** page.

**» Setup Wizard**

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

## WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Internet_R_8_35	8/35	LLC	rt1483	10.12.102.30	10.12.102.1	down
<b>Default Gateway</b>	Internet_R_8_35					
<b>DNS Servers</b>	172.24.11.10					



**Note:**

After you select the country in which you are in and the correct ISP, the ADSL settings, such as protocol, connection type, VPI, and VCI appears. It is recommended to use the default values.

## 3.3 Status

In the navigation bar, choose **Status**. In the **Status** page that is displayed contains: **System**, **LAN**, **WLAN**, **WAN**, **Port Mapping**, **Statistic**, and **ARP Table**.

### 3.3.1 System

Choose **Status** > **System**. The page that is displayed shows the current status and some basic settings of the router, such as software version, DSL mode, upstream speed, downstream speed, and uptime.

**» Setup Wizard**

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

## System Status

This page shows the current status and some basic settings of the device.

System	
<b>Alias Name</b>	SMC7904WBRA4
<b>Software Version</b>	1.3.9
<b>DSP Version</b>	2.9.0.2
DSL	
<b>DSL mode</b>	T1.413 G.Dmt ADSL2 ADSL2+
<b>DSL Status</b>	ACTIVATING.
<b>Upstream Speed</b>	0 kbps 0
<b>Downstream Speed</b>	0 kbps 0
<b>Upstream SNR</b>	0.0dB
<b>Downstream SNR</b>	0.0dB
<b>Reconnection Counts</b>	0
<b>Uptime</b>	1:05
<b>Showtime</b>	

### 3.3.2 LAN

Choose **Status** > **LAN**. The page that is displayed shows some basic LAN settings of the router. In the **LAN** page, you can view the LAN IP address, DHCP server status, MAC address, and DHCP client table. If you want to configure the LAN network, refer to Chapter 3.4.1 LAN Settings.

» Setup Wizard

Status

» System

» LAN

» WLAN

» WAN

» Port Mapping

Statistics

» ARP Table

LAN

WLAN

WAN

Advance

Admin

Diagnostic

## LAN Status

This page shows some basic LAN settings.

LAN Configuration	
IP Address	192.168.2.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
MAC Address	00-e0-4c-87-70-03

DHCP Client Table		
IP Address	MAC Address	Time Expired(s)
None	----	----

### 3.3.3 WLAN

Choose **Status > WLAN**. The page that is displayed shows some basic wireless LAN settings of the router.

» Setup Wizard

Status

» System

» LAN

» WLAN

» WAN

» Port Mapping

Statistics

» ARP Table

LAN

WLAN

WAN

Advance

Admin

Diagnostic

## WLAN Status

This page shows some basic wireless LAN settings.

Wireless Configuration	
Wireless	Enabled
Band	802.11 b+g
Mode	AP
Broadcast SSID	Enabled
root	
Status	Enabled
SSID	adsl-877003
Authentication Mode	Auto
Encrypt Mode	None
vap0	
Status	Disabled
vap1	
Status	Disabled
vap2	
Status	Disabled
vap3	
Status	Disabled

Wireless Client List					
MAC Address	Tx Packet	Rx Packet	Tx Rate (Mbps)	Power Saving	Expired Time (s)
None	---	---	---	---	---

Current Access Control List	
Mode	Disable

### 3.3.4 WAN

Choose **Status > WAN**. In the **WAN** page, you can view basic status of WAN, default gateway, DNS server. If you want to configure the WAN network, refer to the chapter3.6.1 WAN Interface.

» Setup Wizard

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

## WAN Status

This page shows some basic WAN settings.

Interface	VPI/VCI	Encap	Protocol	IP Address	Gateway	Status
Default Gateway						
DNS Servers						

### 3.3.5 Port Mapping

Choose **Status > Port Mapping**. In the **Port Mapping** page, you can view the mapping relation and the status of port mapping.

» Setup Wizard

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» ARP Table

**LAN**

**WLAN**

**WAN**

**Advance**

**Admin**

**Diagnostic**

## Port Mapping

This page shows the mapping relation and the status of port mapping.

**Status:** Disabled

### Mapping Relation

Select	Interface	Priority
Default	LAN4,LAN3,LAN2,LAN1,wlan0	low
Group1		low
Group2		low
Group3		low
Group4		low

### 3.3.6 Statistic

Choose **Status > Statistic**. The **Statistic** page that is displayed contains **Traffic Statistic** and **DSL Statistic**.

#### 3.3.6.1 Traffic Statistic

Choose **Traffic Statistic** in the left pane. The page shown in the following figure appears. In this page, you can view the statistics of each network port.

» Setup Wizard

**Status**

» System

» LAN

» WLAN

» WAN

» Port Mapping

**Statistics**

» Traffic Statistics

» DSL Statistics

» ARP Table

## Statistics -- Port

This page shows the statistics of each network port.

Interface	Rx pkt	Rx err	Rx drop	Tx pkt	Tx err	Tx drop
eth0	2269	0	0	2354	0	0
wlan0	0	0	0	11	0	0

Refresh

### 3.3.6.2 DSL Statistic

Choose **DSL Statistic** in the left pane. The page shown in the following figure appears. In this page, you can view the ADSL line statistics, downstream rate, upstream rate, and other information.

**Statistics -- ADSL**

ADSL line statistics.

Mode		
Latency		
Trellis Coding	Enable	
Status	ACTIVATING.	
Power Level	LO	

	Downstream	Upstream
SNR Margin (dB)	0.0	0.0
Attenuation (dB)	0.0	0.0
Output Power (dBm)	0.0	0.0
Attainable Rate (Kbps)	0	0
Rate (Kbps)	0	0
K (number of bytes in DMT frame)		
R (number of check bytes in RS code word)		
S (RS code word size in DMT frame)		
D (interleaver depth)		
Delay (msec)		
FEC	0	0
CRC	0	0
Total ES	0	0
Total SES	0	0
Total UAS	0	0

### 3.3.7 ARP Table

Choose **Status > ARP Table**. In the **ARP Table** page, you can view the table which shows a list of learned MAC addresses.

**ARP Table**

This table shows a list of learned MAC addresses.

IP Address	MAC Address
192.168.2.2	00-14-78-0C-F2-CE

## 3.4 LAN

In the navigation bar, choose **LAN**. The **LAN** page that is displayed contains **LAN Settings** and **DHCP Settings**. In this page, you can use the LAN configuration to define an IP address for the router and configure the DHCP server.

### 3.4.1 LAN Settings

Choose **LAN > LAN Settings**. In the **LAN Settings** page, you can configure the LAN network. In this page, you can change IP address of the router. The default IP address is 192.168.2.1. This is the private IP address of the router. This is the address under which the router can be reached in the local network. It can be freely assigned from the block of available addresses.

**» Setup Wizard**  
**Status**  
**LAN**  
» LAN Settings  
» DHCP Settings  
**WLAN**  
**WAN**  
**Advance**  
**Admin**  
**Diagnostic**

#### LAN Interface Setup

This page is used to configure the LAN interface of your ADSL router. Here you may change the settings for the IP address, subnet mask, etc..

**Note:** Please **Commit/Reboot** if you have changed the configuration and need the configuration take effect forever.

**Interface Name:** br0  
**IP Address:** 192.168.2.1  
**Subnet Mask:** 255.255.255.0  
 **Secondary IP**  
**IP Address:** 192.168.100.1  
**Subnet Mask:** 255.255.255.0  
**IGMP Snooping:**  Disabled  Enabled  
**Apply Changes**

The following table describes the parameters and buttons of this page.

Field	Description
IP Address	Enter the IP of LAN interface. It is recommended to use an address from a block that is reserved for private use. This address block is 192.168.2.2-192.168.2.254.
Subnet Mask	Enter the subnet mask of LAN interface. The range of subnet mask is from 255.255.0.0-255.255.255.254.
Secondary IP	Select it to enable the secondary LAN IP. The two LAN IP address must be in the different network.
Apply Changes	Save the settings of this page.

### 3.4.2 DHCP Settings

Choose **LAN > DHCP Settings**.

Dynamic Host Configuration Protocol (DHCP) allows the individual PC to obtain the TCP/IP configuration from the centralized DHCP server. You can configure this router as a DHCP server or disable it. The DHCP server can assign IP address, IP default gateway and DNS server to DHCP clients. This router can also act as a surrogate DHCP server (DHCP proxy) where it relays IP address assignment from an actual real DHCP server to clients. You can enable or disable DHCP server or DHCP proxy.

Select **Disable** in the **DHCP Server Setup** page. The page shown in the following figure appears.

The screenshot shows the DHCP Server Setup page. On the left is a navigation menu with options: Setup Wizard, Status, LAN (with sub-options LAN Settings and DHCP Settings), WLAN, WAN, Advance, Admin, and Diagnostic. The main content area is titled "DHCP Server Setup" and contains the following text: "Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access. This page is also used to configure the DHCP server IP addresses for DHCP Relay." Below this is a red note: "Note: Please Commit/Reboot if you have changed the configuration and need the configuration take effect forever." The configuration shows "LAN IP Address: 192.168.2.1" and "Subnet Mask: 255.255.255.0". At the bottom, there are three radio buttons: "Disable", "DHCP Proxy" (which is selected), and "DHCP Server". An "Apply Changes" button is located at the bottom right.

Select **DHCP Proxy** in the **DHCP Server Setup** page. The page shown in the following figure appears.

This screenshot is similar to the previous one, but the "DHCP Proxy" radio button is selected. Below the radio buttons, there is a section titled "DHCP Proxy:" which includes a label "DHCP Server Address:" followed by a text input field containing the value "172.19.31.4". The "Apply Changes" button remains at the bottom right.

The following table describes the parameters of this page.

Field	Description
DHCP Proxy	Select it, the router acts a surrogate DHCP Server and relays the DHCP requests and reponses between the remote server and the client.
DHCP Server Address	Enter the IP address of the actual, remote DHCP server.

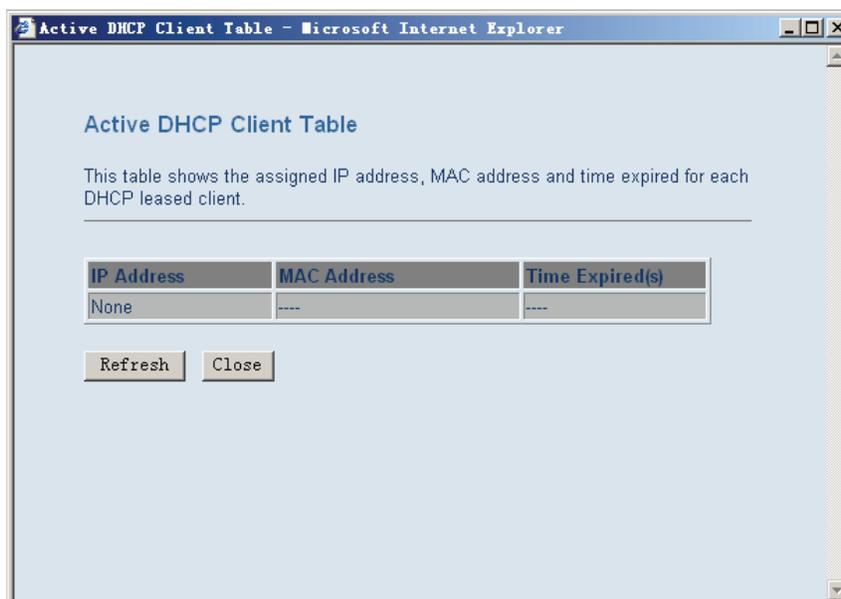
Select **DHCP Server** in the **DHCP Server Setup** page. The page shown in the following figure appears.

This screenshot shows the DHCP Server Setup page with the "DHCP Server" radio button selected. The "DHCP Proxy:" section is no longer visible. Instead, there is a "DHCP Server:" section with the following fields: "IP Pool Range:" with input fields for "192.168.2.2" and "192.168.2.254" and a "Show Client" button; "Max Lease Time:" with input fields for "1" days, "0" hours, and "0" minutes, with a note "(-1 indicates an infinite lease)"; "Domain Name:" with a text input field containing "domain.name"; and "Gateway Address:" with a text input field containing "192.168.2.1". Below these fields is a "MAC-based Assignment" button. The "Apply Changes" button is at the bottom right.

The following table describes the parameters in this page.

Field	Description
DHCP Server	If set to <b>DHCP Server</b> , the router can assign IP addresses, IP default gateway and DNS Servers to Windows95, Windows NT and other systems that support the DHCP client.
IP Pool Range	It specifies the first and the last of contiguous IP address of the IP address pool.
Show Client	Click it, the <b>Active DHCP Client Table</b> page appears. It shows the assigned IP address of the clients.
Max Lease Time	The lease time determines the period that the PCs retain the assigned IP addresses before the IP addresses change.
Domain Name	Enter the domain name if you know. If you leave this blank, the domain name obtained by DHCP from the ISP is used. You must enter host name (system name) on each individual PC. The domain name can be assigned from the router through the DHCP server.
Gateway Address	Enter the IP default gateway of the IP address pool.
MAC-based Assignment	Click it, the <b>Static IP Assignment Table</b> page appears. It allows you assign IP addresses on the LAN to specify individual PCs based on their MAC address.

Click **Show Client** in the **DHCP Server Setup** page. The page shown in the following figure appears. In this page, you can view the IP address assigned to each DHCP client.

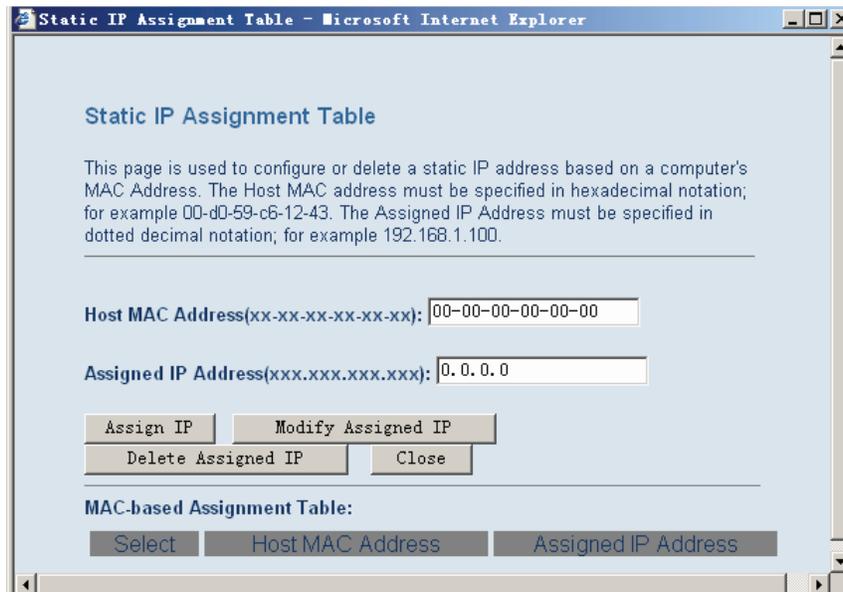


The following table describes the parameters and buttons in this page.

Field	Description
IP Address	It displays the IP address relative to the MAC address.
MAC Address	It displays the MAC address of the PC. Each Ethernet device has a unique MAC address. The MAC address is assigned at the factory and it consists of six pairs of hexadecimal character, for example, 00-A0-C5-00-02-12.
Time Expired (s)	It shows the lease time. The lease time determines the period that the PCs retain

Field	Description
	the assigned IP addresses before the IP addresses change.
Refresh	Refresh the page.
Close	Close the page.

Click **MAC-based Assignment** in the **DHCP Server Setup** page. The page shown in the following figure appears. In this page, you can assign the IP addresses on the LAN to the specific individual PCs based on their MAC address.



The following table describes the parameters and buttons of this page.

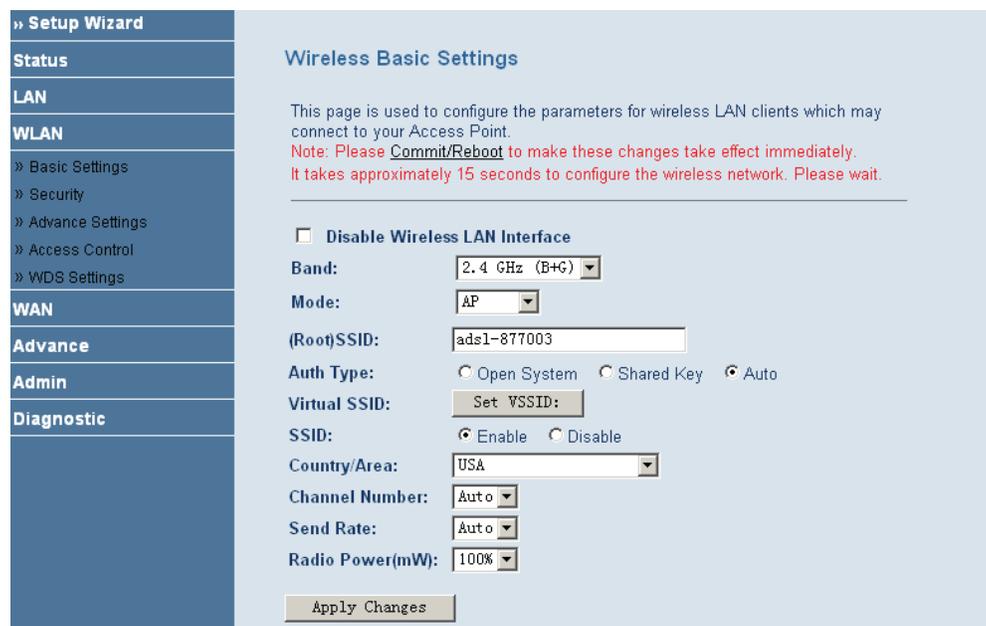
Field	Description
Host MAC Address	Enter the MAC address of a PC on the LAN.
Assigned IP Address	It specifies the IP address of the IP address pool.
Assign IP	After entering the host MAC address and assigned IP address, click it. A row will be added in the MAC-base assignment table.
Modify Assigned IP	Select a row in the MAC-base assignment table. The MAC address and IP address appear. After modifying the MAC address and IP address, click it to save the settings.
Delete Assigned IP	Select a row in the MAC-base assignment table, then click it, this row is deleted.
Close	Close the page.
MAC-based Assignment Table	It shows the assigned IP address based on the MAC address.

### 3.5 WLAN

In the navigation bar, choose **WLAN**. The **WLAN** page that is displayed contains **Basic Settings**, **Security**, **Advance Settings**, **Access Control**, and **WDS Settings**. This page introduces the wireless LAN and some basic configurations. Wireless LANs can be as simple as two computers with wireless LAN cards communicating in a peer-to-peer network or as complex as a number of computers with wireless LAN cards communicating through access points which bridge network traffic to wired LAN.

### 3.5.1 Basic Settings

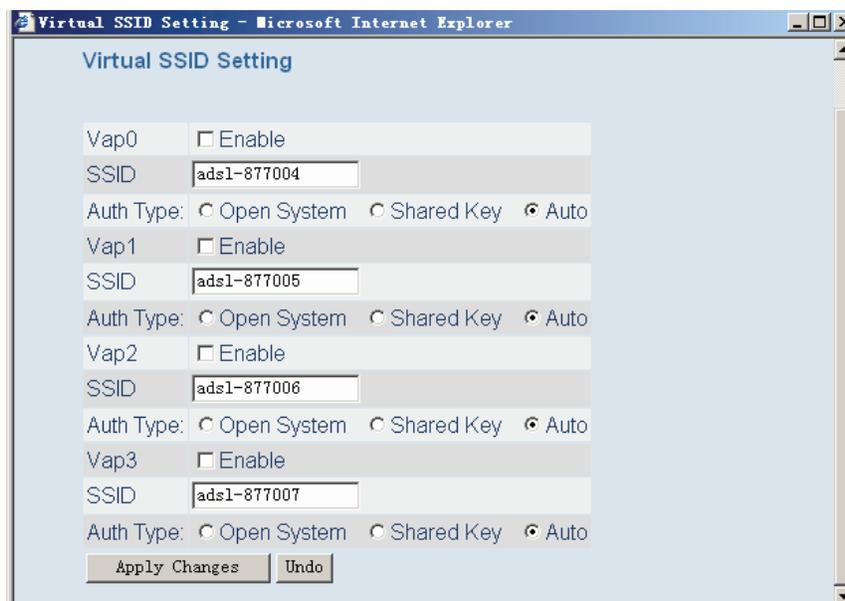
Choose **WLAN > Basic Settings**. The page shown in the following figure appears. In this page, you can configure the parameters for wireless LAN clients that may connect to your access point.



The following table describes the parameters and buttons of this page.

Field	Description
Disable Wireless LAN Interface	By default, the wireless LAN is enabled. Select it to disable the wireless LAN.
(Root) SSID	The service set identification (SSID) is a unique name to identify the router in the wireless LAN. Wireless stations associating to the router must have the same SSID. Enter a descriptive name.
Set VSSID	Click it, the <b>Virtual SSID Setting</b> page appears. In this page, you can enable 4 VSSIDs at most.
SSID	You can enable or disable SSID.
Country/Area	Select the region which you are in.
Channel Number	A channel is the radio frequency used by 802.11b/g wireless device. Channels available depend on your geographical area. You may have a choice of channels (for your region) and you should use a different channel from an adjacent AP to reduce the interference. Interference and degrading performance occurs when radio signal from different APs overlap. Select a channel from the drop-down list box.
Apply Changes	Save the settings of this page.

Click **Set VSSID**, the page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description
Vap	
SSID	The service set identification (SSID) is a unique name to identify the router in the wireless LAN
Auth Type	You can choose <b>Open System</b> , <b>Shared Key</b> , or <b>Auto</b> . <ul style="list-style-type: none"> <li>● If you select <b>Open System</b>, you can</li> <li>● If you select <b>Shared Key</b>, you can</li> <li>● If you select <b>Auto</b>, you can</li> </ul>
Apply Chnages	Save the settings of this page.
Undo	Refresh this page.

### 3.5.2 Security

Choose **WLAN > Security**. The page shown in the following figure appears. Wireless security is vital to your network. It protects the wireless communication among the wireless stations, access points and the wireless network.

**» Setup Wizard**

Status

LAN

WLAN

» Basic Settings

» Security

» Advance Settings

» Access Control

» WDS Settings

WAN

Advance

Admin

Diagnostic

### Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.  
**Note:** Please Commit/Reboot to make these changes take effect immediately.  
 It takes approximately 15 seconds to configure the wireless network. Please wait.

SSID Type:  Root

Encryption:

Use 802.1x Authentication  WEP-64bits  WEP-128bits

WPA Authentication Mode:  Enterprise(RADIUS)  Personal(Pre-Shared Key)

Pre-Shared Key Format:

Pre-Shared Key:

Authentication RADIUS Server: Port  IP Address

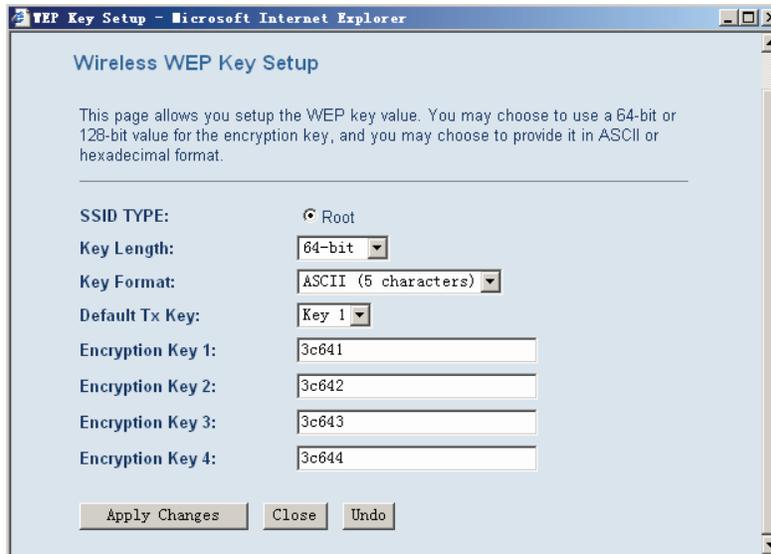
Password

*When WEP is selected as the Encryption type, a WEP key must be configured.*

The following table describes the parameters and buttons of this page.

Field	Description
SSID Type	Select the SSID.
Encryption	You can choose <b>None</b> , <b>WEP</b> , <b>WPA (TKIP)</b> , <b>WPA2 (AES)</b> , or <b>WPA2 Mixed</b> . Wired equivalent privacy (WEP) encrypts data frames before transmitting over the wireless network. Wi-Fi protected access (WPA) is a subset of the IEEE802.11i security specification draft. Key differences between WPA and WEP are user authentication and improved data encryption.
Set WEP Key	It is available when you set to <b>WEP</b> . Click it, the <b>Wireless Wep Key Setup</b> page appears.
Authentication RADIUS Server	RADIUS is based on a client-server model that supports authentication, authorization and accounting. The access point is client and the server is RADIUS server. RADIUS is a simple package exchange in which your router acts as a message relay between the wireless station and the network RADIUS server.
Port	The default port of the RADIUS server for authentication is 1812. You need not change this value unless your network administrator instructs you to do so with additional information.
IP Address	Enter the IP address of the RADIUS server.
Password	Enter a password as the key to be shared between the external authentication server and the access point. The key is not send over the network. This key must be the same on the external authentication server and your router.
Apply Changes	Save the the changes of this page.

Click **Set WEP Key**, the page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description
SSID TYPE	Select the SSID.
Key Length	Select 64-bit or 128-bit to use data encryption.
Key Format	<ul style="list-style-type: none"> <li>● If you choose <b>64-bit</b>, you can choose ASCII (5 characters) or Hex (10 characters).</li> <li>● If you choose <b>128-bit</b>, you can choose ASCII (13 characters) or Hex (26 characters).</li> </ul>
Default Tx Key	Select the default encryption key.
Encryption Key 1 to 4	<p>The Encryption keys are used to encrypt the data. Both router and wireless stations must use the same encryption key for data transmission.</p> <ul style="list-style-type: none"> <li>● If you choose <b>64-bit</b> and <b>ASCII (5 characters)</b>, enter any 5 ASCII characters.</li> <li>● If you choose <b>64-bit</b> and <b>Hex (10 characters)</b>, enter any 10 hexadecimal characters.</li> <li>● If you choose <b>128-bit</b> and <b>ASCII (13 characters)</b>, enter any 13 ASCII characters.</li> <li>● If you choose <b>128-bit</b> and <b>Hex (26 characters)</b>, enter any 26 hexadecimal characters.</li> </ul>
Apply Changes	Save the changes of this page.
Close	Close this page.
Undo	Refresh this page.

### 3.5.3 Advance Settings

Choose **WLAN > Advance Settings**. The page shown in the following figure appears. These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know the effect of the changes on your AP.

**» Setup Wizard**

**Status**

**LAN**

**WLAN**

» Basic Settings

» Security

» Advance Settings

» Access Control

» WDS Settings

**WAN**

**Advance**

**Admin**

**Diagnostic**

### Wireless Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LANs. These settings should not be changed unless you know what effect the changes will have on your Access Point.

**Note:** Please **Commit/Reboot** to make these changes take effect immediately. It takes approximately 15 seconds to configure the wireless network. Please wait.

**Fragment Threshold:**  (256-2346)

**RTS Threshold:**  (0-2347)

**Beacon Interval:**  (20-1024 ms)

**Preamble Type:**  Long  Short  Auto

**Relay Interval:**  Enable  Disable

**LAN/WLAN Interval:**  Enable  Disable

**WMM support:**  Enabled  Disabled

The following table describes the parameters of this page.

Field	Description
Fragment Threshold	This is the maximum data fragment size (between 256 and 2346bytes) that can be sent in the wireless network before the router fragments the packet into smaller data frames.
RTS Threshold	Request to send (RTS) is designed to prevent collisions due to hidden node. A RTS defines the biggest size data frame you can send before a RTS handshake invoked. The RTS threshold value is between 0 and 2347. If the RTS threshold value is greater than the fragment threshold value, the RTS handshake do not occur. Because the data frames are fragmented before they reach the RTS size.

### 3.5.4 Access Control

Choose **WLAN > Access Control**. The page shown in the following figure appears. In this page, you can configure the wireless access control.

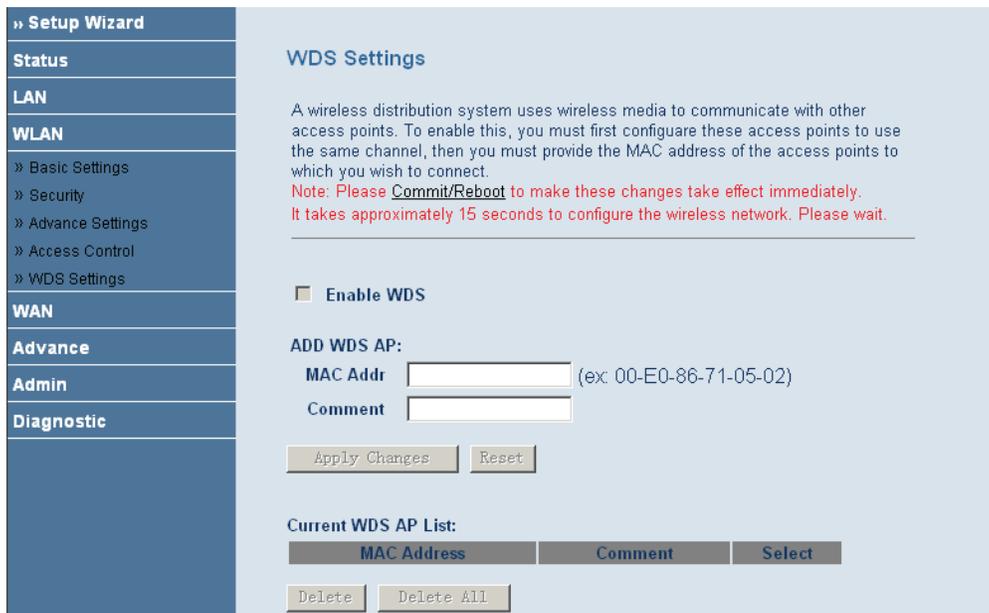


The following table describes the parameters and buttons of this page.

Field	Description
Select Access Control Mode	<p>You can choose <b>Disable</b>, <b>Allow Listed</b>, or <b>Deny Listed</b>.</p> <ul style="list-style-type: none"> <li>● Select <b>Allow Listed</b>, only the clients whose MAC address is listed can access the router.</li> <li>● Select <b>Deny Listed</b>, the clients whose MAC address is listed are denied to access the router.</li> </ul>
Apply Changes	Save the changes of selecting the access control mode.
MAC Addr	Enter the MAC address of the wireless station that are allowed or denied access to your router in this address field.
Apply Changes	Save the changes of MAC Addr.
Reset	Refresh the MAC address.
Current Access Control List	The MAC address in this table is allowed or denied to access to the router.
Delete	Delete the row you select in the current access control list.
Delete All	Delete all rows in the current access control list.
Reset	Refresh the current access control list.

### 3.5.5 WDS Settings

Choose **WLAN > WDS Settings**. The page shown in the following figure appears.



The following table describes the fields of this screen.

Label	Description
Enable WDS	Select it to enable the WDS function. Otherwise, you can not configure the settings of this page.
MAC Addr	Enter the MAC address (in XX-XX-XX-XX-XX-XX format) of the AP.
Comment	Enter the comment to describe the AP of the MAC address.
Apply Change	Click it to add the <b>MAC Addr</b> with the <b>Comment</b> to <b>Current WDS AP List</b> .
Reset	Click it to refresh the <b>MAC Addr</b> and <b>Comment</b> .
Current WDS AP List	This table shows all APs of the WDS.
Delete	Click it to delete the row of the <b>Current WDS AP List</b> .
Delete All	Click it to delete all rows of the <b>Current WDS AP List</b> .

## 3.6 WAN

In the navigation bar, choose **WAN**. The **WAN** page that is displayed contains **WAN Interface** and **ADSL Settings**.

### 3.6.1 WAN Interface

Choose **WAN > WAN Interface**. The page shown in the following figure appears. In this page, you can configure WAN interface of your router.

» Setup Wizard

Status Channel Configuration

LAN

WLAN

WAN

» WAN Interface

» ADSL Settings

Advance

Admin

Diagnostic

This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router.

Note: Please **Commit/Reboot** if you have changed the configuration and need the configuration take effect forever.

Current ATM VC Table:

Select	Inf	Mode	VPI	VCI	Encap	NAPT	IP Addr	Remote IP	User Name	Droute	Status	Actions
<input type="radio"/>	Internet_R_8_35	rt1483	8	35	LLC	On	10.12.102.30	10.12.102.1		On	Enable	

VPI:  VCI:

Encapsulation:  LLC  VC-Mux

Channel Mode:

Application Mode:

Admin Status:  Enable  Disable

Enable NAPT

PPP Settings

Login Name:

Password:

Connection Type:

Idle Time(min):

WAN IP Settings Type

Fixed IP  Use DHCP:

Local IP Address:

Remote IP Address:

Subnet Mask:

Unnumbered:

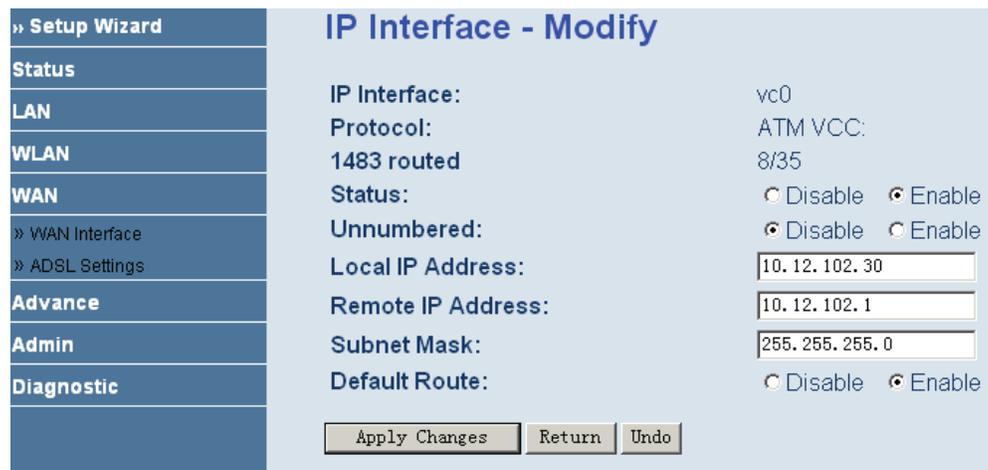
Default Route:  Disable  Enable

The following table describes the parameters of this page.

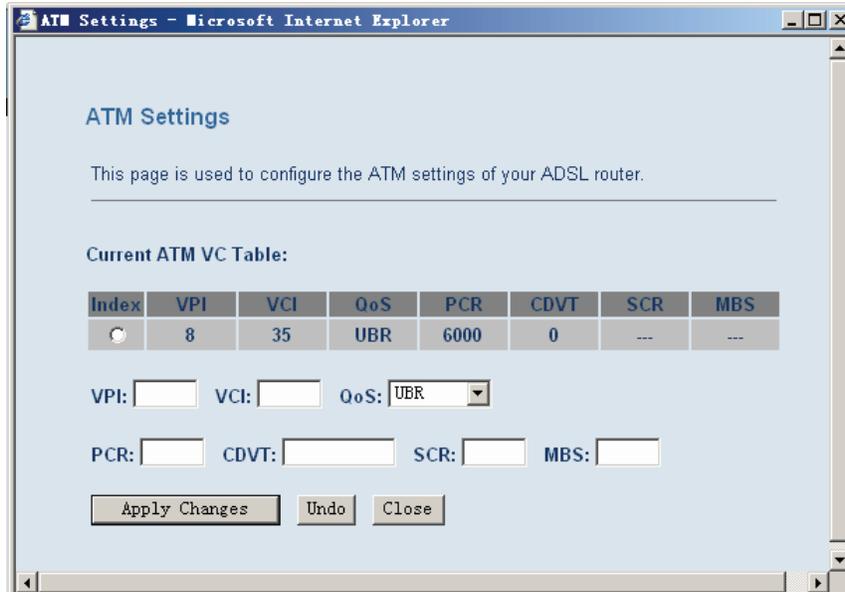
Field	Description
Current ATM VC Table	This table shows the existed PVCs. It shows the Interface name, channel mode, VPI/VCI, encapsulation mode, local IP address, remote IP address and other information. The maximum item of this table is eight.
	Click it, the <b>IP Interface-Modify</b> page appears. You can modify the PVCs' parameters.
VPI	The virtual path between two points in an ATM network, ranging from 0 to 255.
VCI	The virtual channel between two points in an ATM network, ranging from 32 to 65535 (1 to 31 are reserved for known protocols)
Encapsulation	You can choose <b>LLC</b> and <b>VC-Mux</b> .
Channel Mode	You can choose <b>1483 Bridged</b> , <b>1483 MER</b> , <b>PPPoE</b> , <b>PPPoA</b> , or <b>1483 Routed</b> .
Admin Status	Select Disable, this PVC is unusable.
Enable NAPT	Select it to enable the NAPT function of the router. If you do not select it and you want to access the Internet normally, you must add a router on the uplink equipment. Otherwise, the access to the Internet fails. Normally, it is required to enable NAPT.
Login Name	The correct user name that your ISP has provided to you.
Password	The correct password that your ISP has provided to you.
Connection Type	You can choose <b>Continuous</b> , <b>Connect on Demand</b> , or <b>Manual</b> .
Idle Time(min)	If select connect on demand, you need to enter the idle timeout time. Within the preset minutes, if the router does not detect the flow of the user continuously, the router automatically disconnects the PPPoE connection.
<b>WAN IP Settings</b>	
Type	You can choose <b>Fixed IP</b> or <b>Use DHCP</b> . <ul style="list-style-type: none"> <li>● If select <b>Fixed IP</b>, you should enter the local IP address, remote IP address and subnet mask.</li> </ul>

Field	Description
	<ul style="list-style-type: none"> <li>If select <b>Use DHCP</b>, the router is a DHCP client, the WAN IP address is assigned by the remote DHCP server.</li> </ul>
Local IP Address	It is the IP address of WAN interface which is provided by your ISP.
Remote IP Address	This is the gateway IP address which is provided by your ISP.
Subnet Mask	It is the subnet mask of the local IP address.
Unnumbered	Select this checkbox to enable IP Unnumbered function.
<b>Default Route</b>	
Add	After configuring the parameters of this page, click it to add a new PVC into the current ATM VC table.
Modify	Select a PVC in the current ATM VC table, then modify the parameters of this PVC. After finishing, click it to apply the change of this PVC.
Delete	Select a PVC in the current ATM VC table, then click it to delete this PVC.
Undo	Click it to refresh the page.
ATM Settings	Click it, the <b>ATM Settings</b> page appears. You can configure the parameters of the ATM for the router, including Qos type, PCR, CDVT, SCR and MBS.

Click  in the **1483 Routed** mode. The page shown in the following figure appears. In this page, you can configure parameters of this 1480 routed PVC.



Click **ATM Setting** in the **WAN Interface** page. The page shown in the following figure appears. In this page, you can configure the parameters of the ATM for your ADSL router, including QoS type, PCR, CDVT, SCR and MBS.



The following table describes the parameters and buttons of this page.

Field	Description

### 3.6.2 ADSL Settings

Choose **WAN > ADSL Settings**. The page shown in the following figure appears. In this page, you can select the DSL modulation. Mostly, you need to remain this factory default settings. The router supports these modulations: **G.lite**, **G.Dmt**, **T1.413**, **ADSL2**, **ADSL2+**, **AnnexL**, and **AnnexM**. The router negotiates the modulation modes with the DSLAM.



### 3.7 Advance

In the navigation bar, choose **Advance**. The **Advance** page that is displayed contains **DNS, Firewall, Virtual Server, Routing, IP QOS, Anti-DOs, Port Mapping, and Other**.

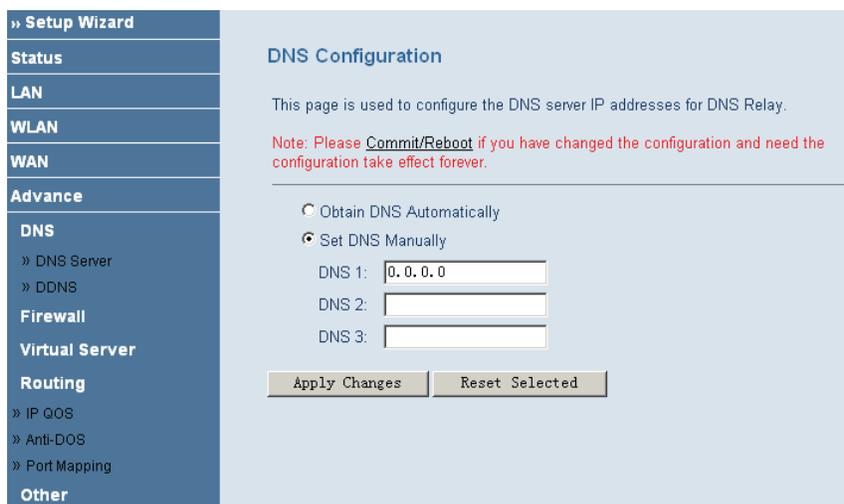
#### 3.7.1 DNS

Choose **Advance > DNS**. The **DNS** page that is displayed contains **DNS Server and DDNS**.

##### 3.7.1.1 DNS Server

Choose **DNS Server** in the left pane. The page shown in the following figure appears.

Domain name system (DNS) is an Internet service that translates the domain name into IP address. Because the domain name is alphabetic, it is easier to remember. The Internet, however, is based on IP addresses. Every time you use a domain name, a DNS service translates the name into the corresponding IP address. For example, the domain name `www.example.com` might translate to `198.105.232.4`. The DNS system has its own network. If one DNS server does not know how to translate a particular domain name, it asks another one, and so on, until the correct IP address is returned.

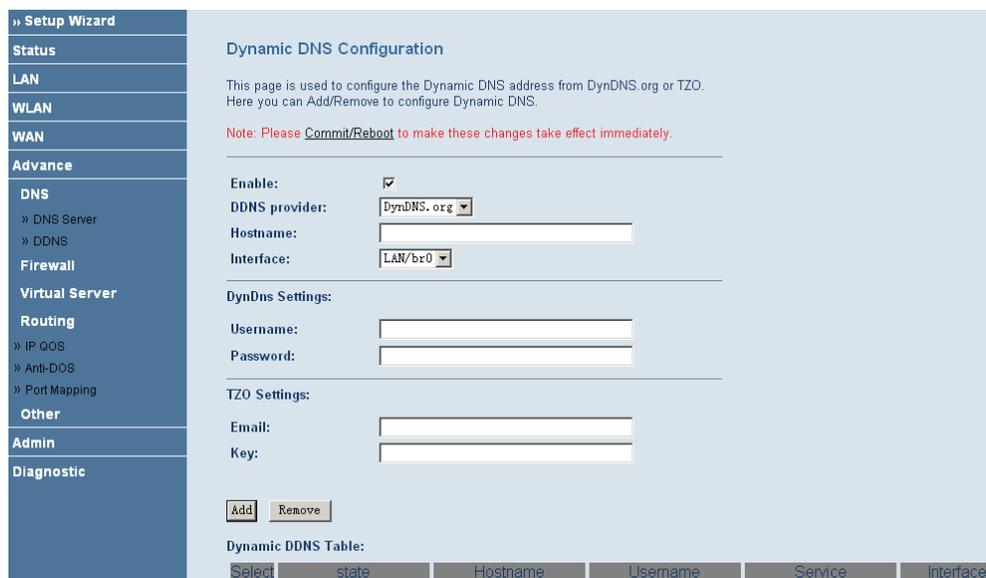


The following table describes the parameters and buttons of this page.

Field	Description
Obtain DNS Automatically	Select it, the router accepts the first received DNS assignment from one of the PPPoA, PPPoE or MER enabled PVC(s) during the connection establishment.
Set DNS Manually	Select it, enter the primary and optional secondary DNS server IP addresses.
Apply Changes	Save the settings of this page.
Reset Selected	Refresh this page.

### 3.7.1.2 DDNS

Choose **DDNS** in the left pane. The page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description

## 3.7.2 Firewall

Choose **Advance > Firewall**. The **Firewall** page that is displayed contains **IP/Port Filterer**, **MAC Filter**, and **URL Blocking**.

### 3.7.2.1 IP/Port Filter

Choose **IP/Port Filter** in the left pane. The page shown in the following figure appears. Entries in this table are used to restrict certain types of data packets through the gateway. These filters are helpful in securing or restricting your local network.

**IP/Port Filtering**

Entries in this table are used to restrict certain types of data packets through the Gateway. Please carefully set the source port.

**Note:** Please Commit/Reboot to make these changes take effect immediately.

Default settings  
 Outgoing Action  Deny  Allow  
 Incoming Action  Deny  Allow

**Apply Changes**

Current Filter Table:

Direction	Protocol	Src IP	Src Port	Dst IP	Dst Port	Rule Action	Select
Outgoing	TCP					Deny	<input checked="" type="radio"/>

**Delete Selected** **Delete All** **Add Rule**

Click **Apply Changes** to save the settings of this page.

Click **Add Rule** to add a new rule of the IP/Port filter.

Current Filter Table:

Direction	Protocol	Src IP	Src Port	Dst IP	Dst Port	Rule Action	Select
Outgoing	TCP					Deny	<input checked="" type="radio"/>

**Delete Selected** **Delete All** **Add Rule**

Rule Action  Deny  Allow

Direction: **Outgoing** Protocol: **TCP**

Src IP Address: **0.0.0.0** Src Subnet Mask: **255.255.255.255** Src Port:  -

Dst IP Address: **0.0.0.0** Dst Subnet Mask: **255.255.255.255** Dst Port:  -

**Add**

The following table describes the parameters and buttons of this page.

Field	Description

### 3.7.2.2 MAC Filter

Choose **MAC Filter** in the left pane. The page shown in the following figure appears. Entries in this table are used to restrict certain types of data packets from your local network to Internet through the gateway. These filters are helpful in securing or restricting your local network.

Click **Apply Changes** to save the settings of this page.

Click **Add Rule** to add a new rule of the MAC filter.

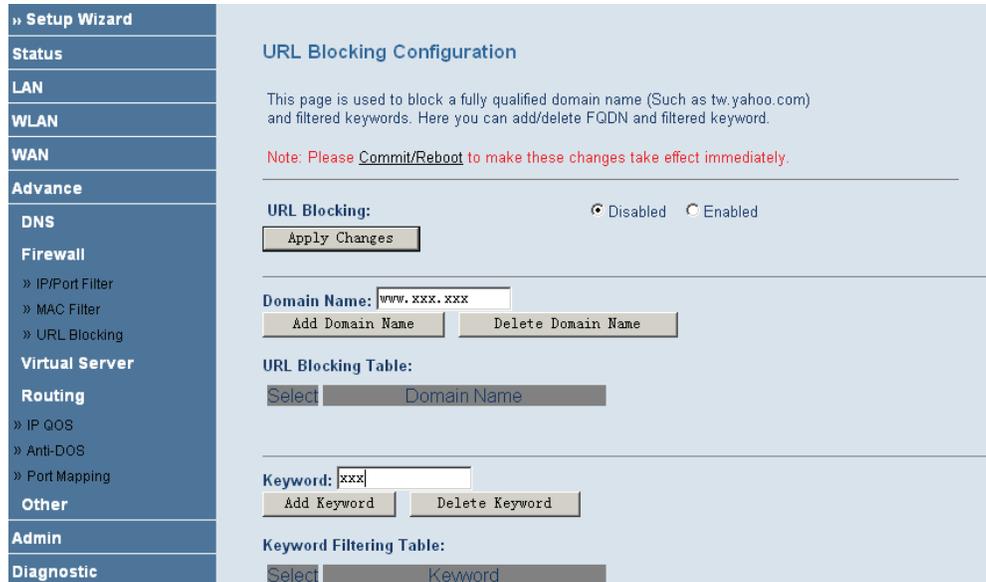
The following table describes the parameters and buttons of this page.

Field	Description

Field	Description

### 3.7.2.3 URL Blocking

Choose **URL Blocking** in the left pane. The page shown in the following figure appears. This page is used to block a fully qualified domain name (FQDN), such as tw.yahoo.com and filtered keyword. You can add or delete FQDN and filtered keyword.



The following table describes the parameters and buttons of this page.

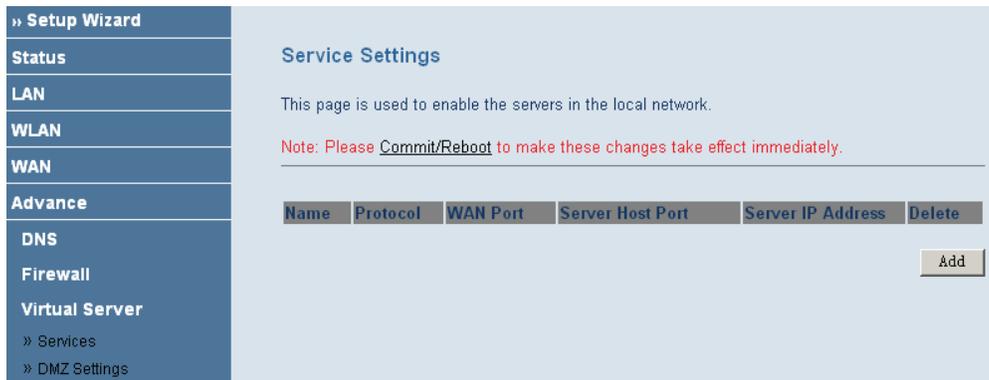
Field	Description

## 3.7.3 Virtual Server

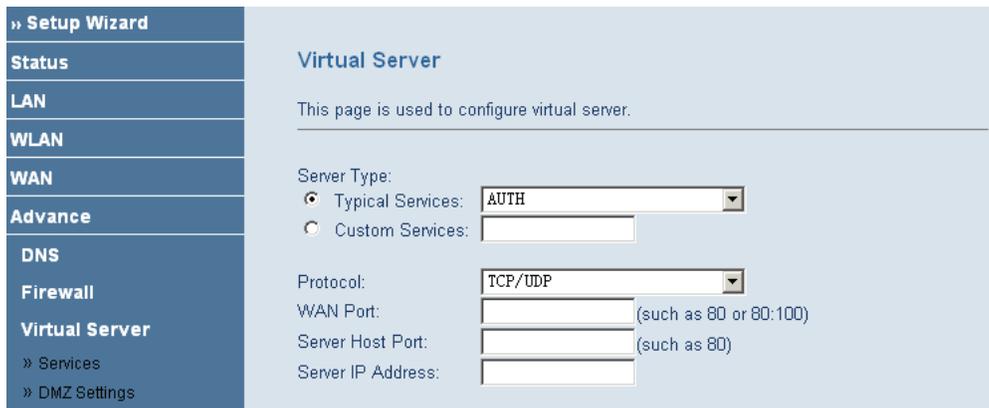
Choose **Advance > Virtual Server**. The page shown in the following figure appears. The page that is displayed contains **Services** and **DMZ Settings**.

### 3.7.3.1 Services

Choose **Services** in the left pane. The page shown in the following figure appears. This page is used to enable the servers in the local network.



Click **Add** to add a virtual server. The page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description

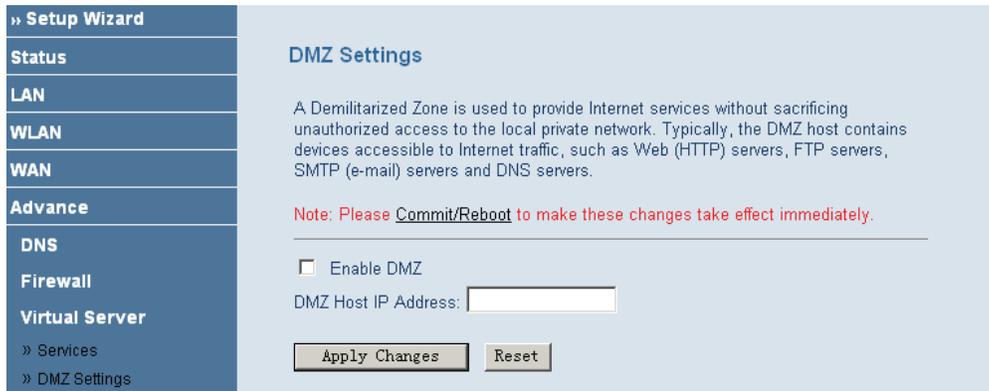
### 3.7.3.2 DMZ Settings

Choose **DMZ Settings** in the left pane. The page shown in the following figure appears. A demilitarized zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

**Step 1** Select **Enable DMZ** to enable this function.

**Step 2** Enter an IP address of the DMZ host.

**Step 3** Click **Apply Changes** to save the settings of this page.

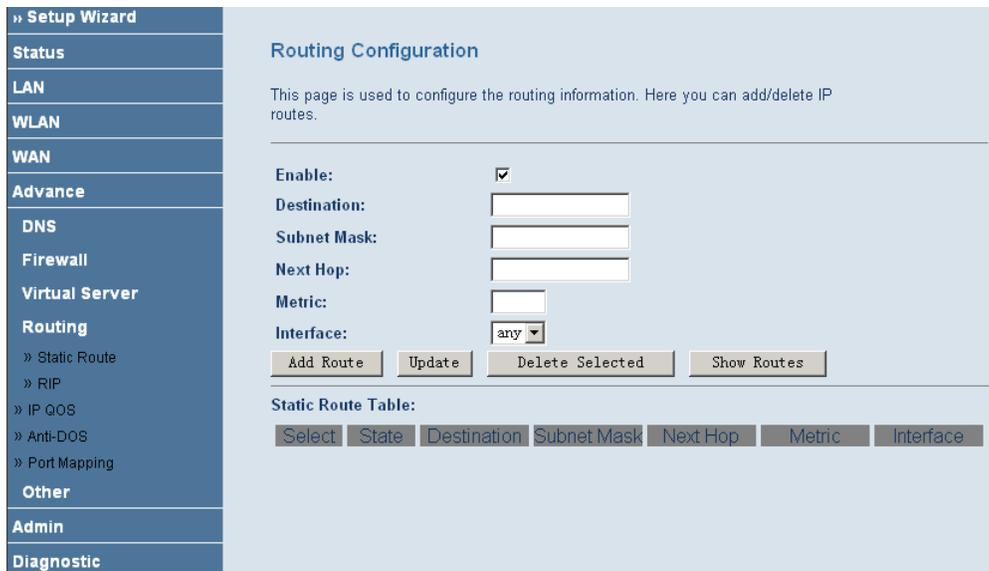


## 3.7.4 Routing

Choose **Advance > Routing**. The page shown in the following figure appears. The page that is displayed contains **Static Route** and **RIP**.

### 3.7.4.1 Static Route

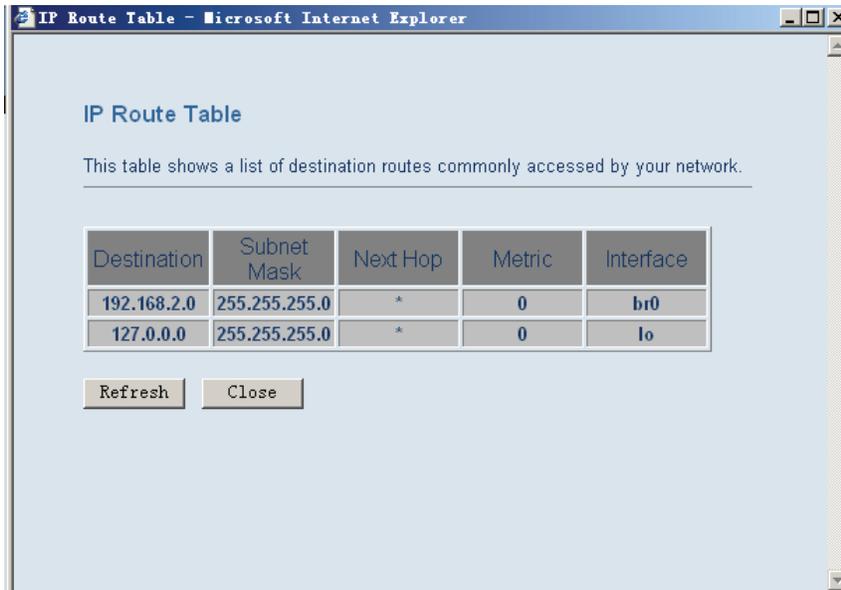
Choose **Static Route** in the left pane. The page shown in the following figure appears. In this page, you can configure the routing information. You can add or delete IP routes.



The following table describes the parameters and buttons of this page.

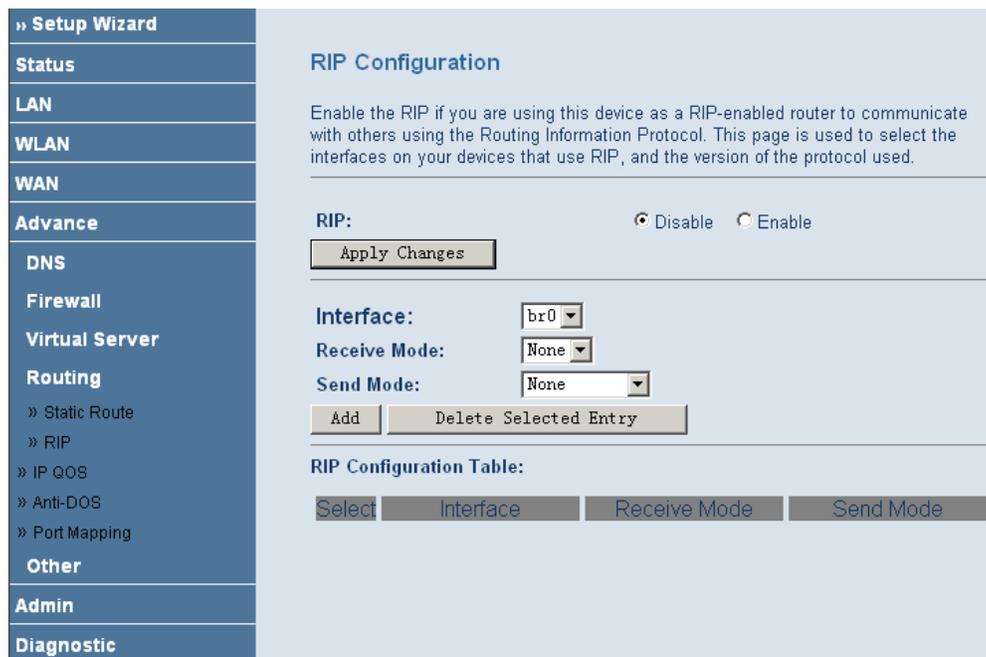
Field	Description

Click **Show Routes**. The table shown in the following figure appears. The table shows a list of destination routes commonly accessed by your network.



### 3.7.4.2 RIP

Choose **RIP** in the left pane. The page shown in the following figure appears. If you are using this device as a RIP-enabled router to communicate with others who is using the Routing Information Protocol (RIP), enable the RIP. This page is used to select the interfaces on your devices that use RIP, and the version of the protocol used.

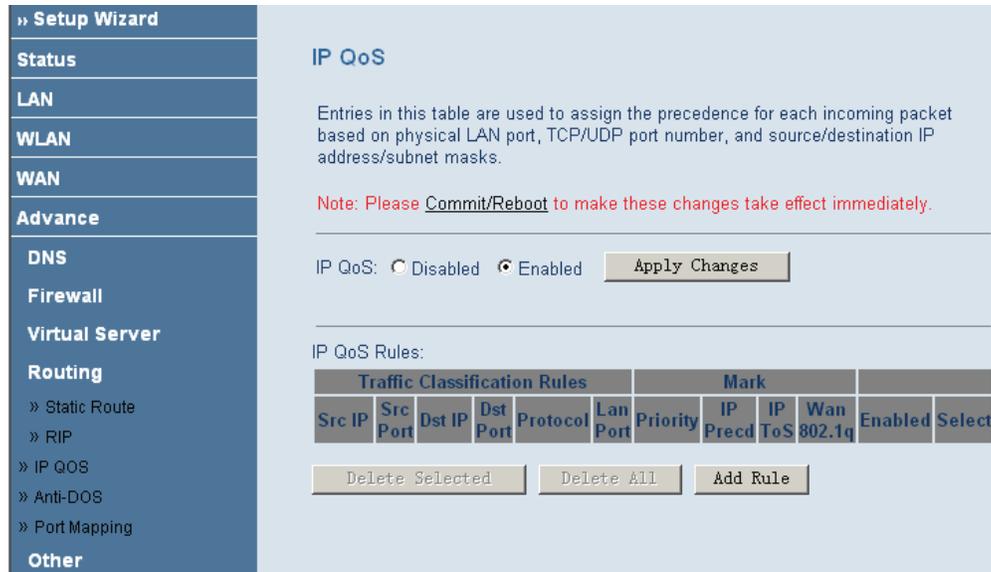


The following table describes the parameters and buttons of this page.

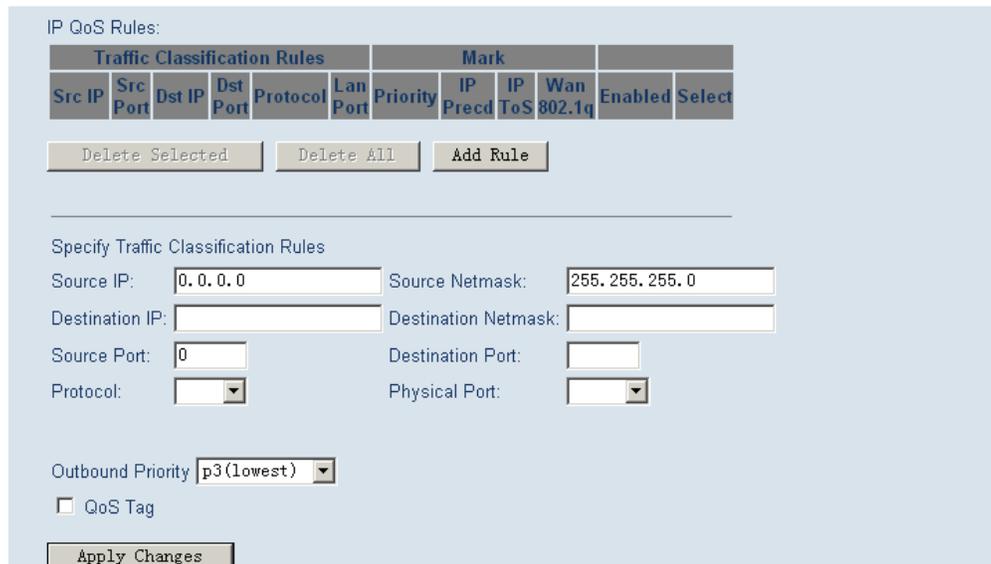
Field	Description

### 3.7.5 IP QoS

Choose **Advance > IP QOS**. The page shown in the following figure appears. Entries in this table are used to assign the precedence for each incoming packet based on physical LAN port, TCP/UDP port number, and source/destination IP address/subnet masks.



Click **Add Rule**, the page shown in the following figure appears.



The following table describes the parameters and buttons of this page.

Field	Description

## 3.7.6 Anti-dos

Choose **Advance > Anti-Dos**. The page shown in the following figure appears. Denial-of-service attack (DoS Attack) is a type of attack on a network that is designed to bring the network to its knees by flooding it with useless traffic. In this page, you can prevent DoS attacks.

The screenshot shows the 'Anti-dos Settings' page. On the left is a navigation menu with options: Setup Wizard, Status, LAN, WLAN, WAN, Advance (selected), DNS, Firewall, Virtual Server, Routing (with sub-options: Static Route, RIP, IP QOS, Anti-DOS, Port Mapping), Other, Admin, and Diagnostic. The main content area is titled 'Anti-dos Settings' and contains a description of a DoS attack, a note to 'Commit/Reboot' for changes to take effect, and a list of attack types with checkboxes and input fields. The 'Enable Anti-DOS' checkbox is unchecked. The list includes: Whole System Flood: SYN (100 packets/sec), Whole System Flood: FIN (100 packets/sec), Whole System Flood: UDP (100 packets/sec), Whole System Flood: ICMP (100 packets/sec), Per-Source IP Flood: SYN (100 packets/sec), Per-Source IP Flood: FIN (100 packets/sec), Per-Source IP Flood: UDP (100 packets/sec), Per-Source IP Flood: ICMP (100 packets/sec), TCP/UDP PortScan (High Sensitivity), ICMP Smurf, IP Land, IP Spoof, IP TearDrop, PingOfDeath, TCP Scan, TCP SynWithData, UDP Bomb, and UDP EchoChargen. At the bottom, there are 'Select All' and 'Clear All' buttons, an 'Enable Source IP Blocking' checkbox (unchecked) with a '300' input field for 'Block Time(Sec)', and an 'Apply Changes' button.

Click **Apply Changes** to save the settings of this page.

## 3.7.7 Port Mapping

Choose **Advance > Port Mapping**. The page shown in the following figure appears. In this page, you can bind the WAN interface and the LAN interface to the same group.

The procedure for manipulate a mapping group is as follows:

**Step 1** Select **Enable** to enable this function.

**Step 2** Select a group from the table.

**Step 3** Select interfaces from the WAN and LAN interface list and add them to the grouped interface list using the arrow buttons to manipulate the required mapping of the ports.

**Step 4** Click **Apply Changes** to save the changes.

» Setup Wizard

Status

LAN

WLAN

WAN

Advance

DNS

Firewall

Virtual Server

Routing

» IP QOS

» Anti-DOS

» Port Mapping

Other

Admin

Diagnostic

### Port Mapping

To manipulate a mapping group:

1. Select a group from the table.
2. Select interfaces from the WAN and LAN interface list and add them to the grouped interface list using the arrow buttons to manipulate the required mapping of the ports.
3. Click "Apply Changes" button to save the changes.

**Note:**

1. An interface may only belong to one group.
2. Note: Please Commit/Reboot to make these changes take effect immediately.

Disable  Enable

**WAN Interface**

**Grouped Interface**

Add >

< Delete

**LAN Interface**

**Priority**  Low  Middle  High  Highest

Select	Interface	Priority
Default	LAN4,LAN3,LAN2,LAN1,wlan0	low
Group1 <input type="radio"/>		low
Group2 <input type="radio"/>		low
Group3 <input type="radio"/>		low
Group4 <input type="radio"/>		low

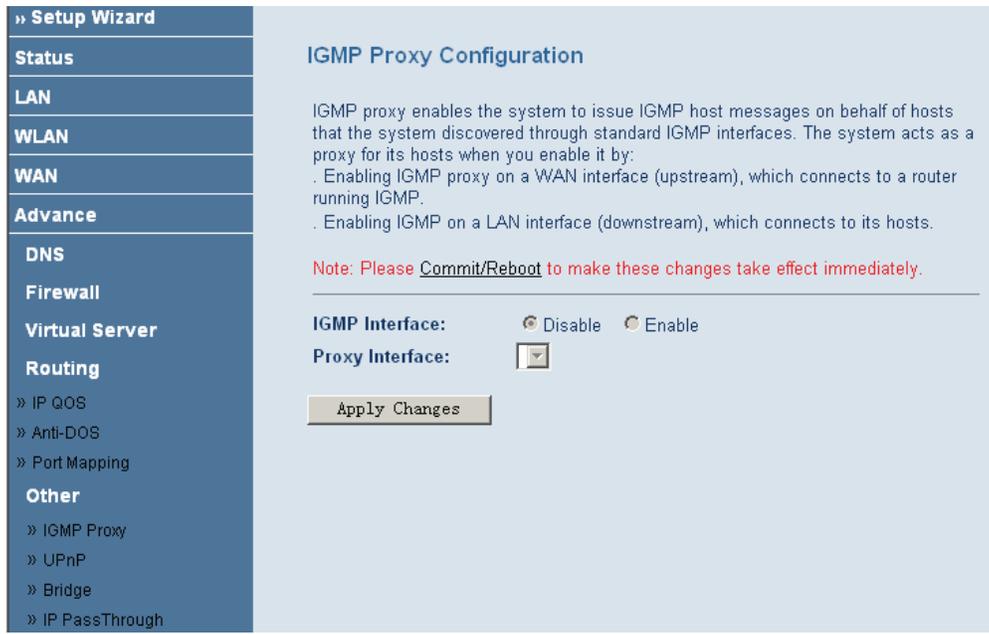
Apply Changes

## 3.7.8 Other

Choose **Advance > Other**. In the **Other** page that is displayed contains **IGMP Proxy**, **UPNP**, **Bridge**, and **IP PassThrough**.

### 3.7.8.1 IGMP Proxy

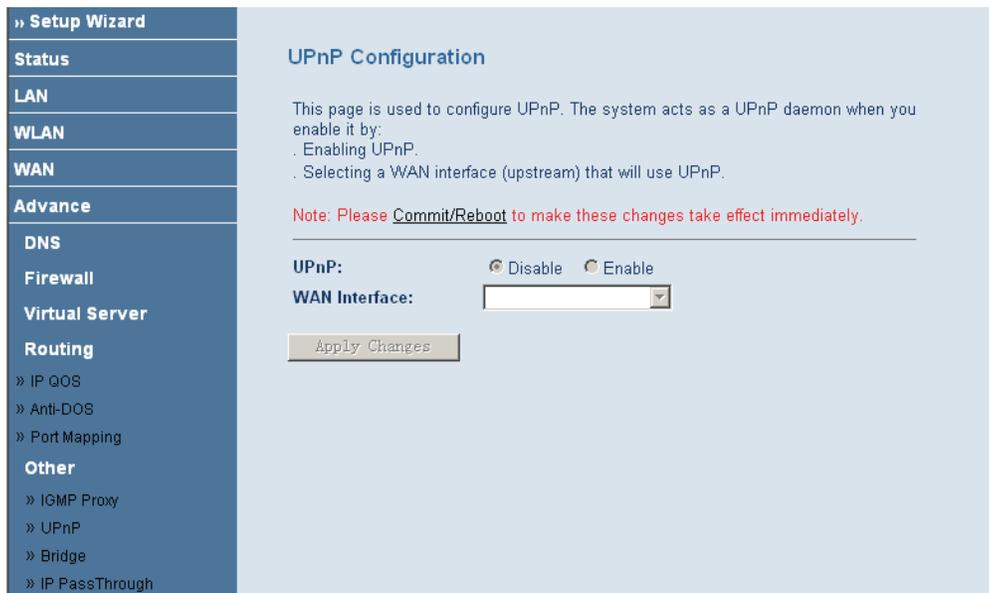
Choose **IGMP Proxy** in the left pane. The page shown in the following figure appears. IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts after you enable it.



Click **Apply Changes** to save the settings of this page.

### 3.7.8.2 UPnP

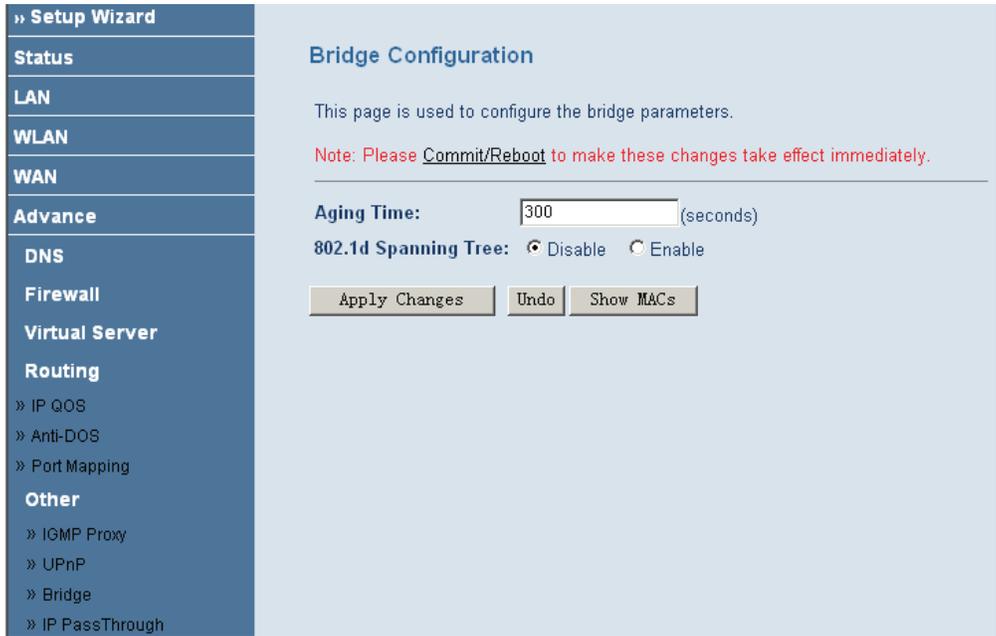
Choose **UPnP** in the left pane. The page shown in the following figure appears. This page is used to configure UPnP. The system acts as a daemon after you enable it.



Click **Apply Changes** to save the settings of this page.

### 3.7.8.3 Bridge

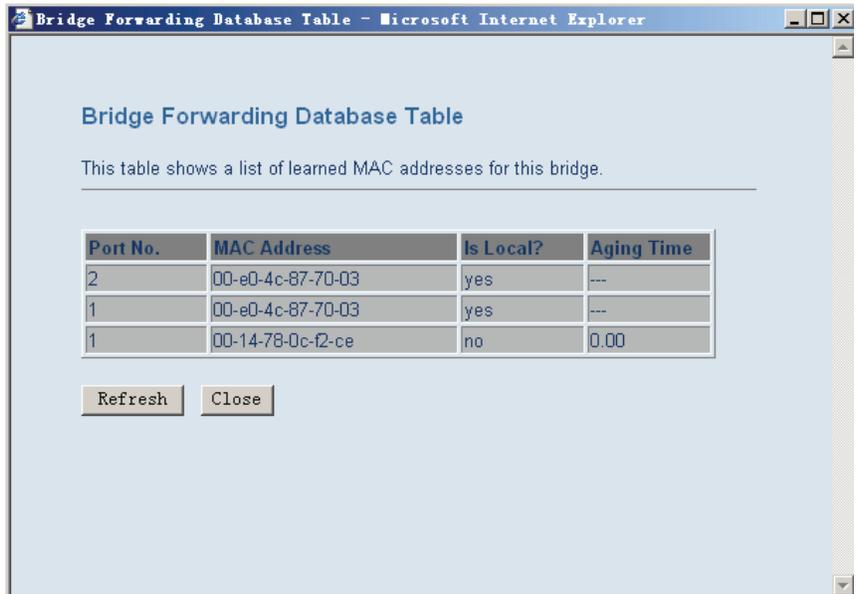
Choose **Bridge** in the left pane. The page shown in the following figure appears. This page is used to configure the bridge parameters. In this page, you can change the settings or view some information in the bridge mode and its attached ports.



The following table describes the parameters and buttons of this page.

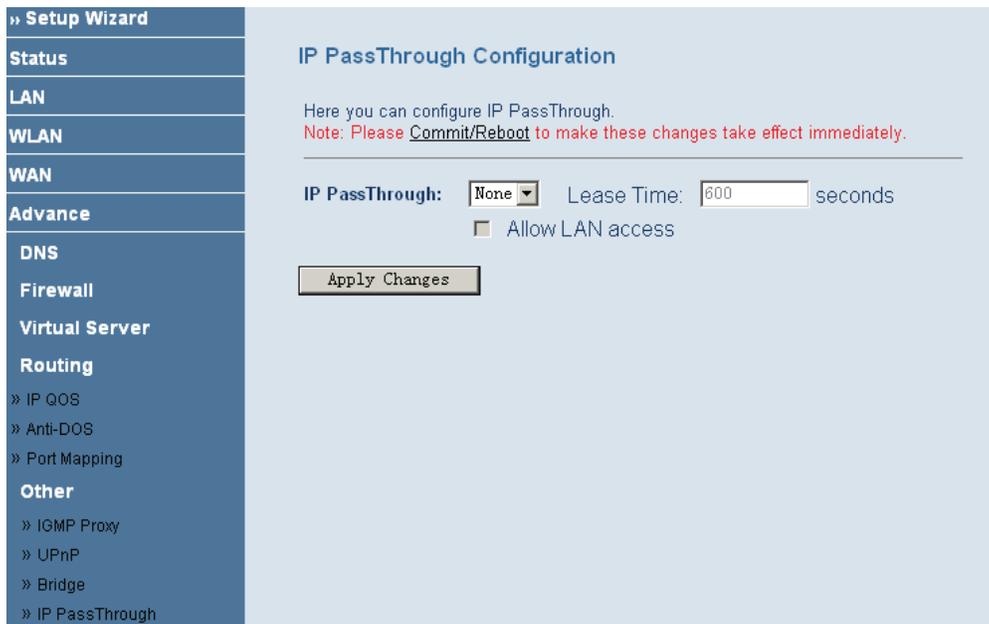
Field	Description

Click **Show MACs**. The page shown in the following figure appears. This table shows a list of learned MAC addresses for this bridge.



### 3.7.8.4 IP PassThrough

Choose **IP Pass Through** in the left pane. The page shown in the following figure appears. IP passthrough is also known as ZIPB or IP extension. In this page, you can enable and configure IP passthrough.

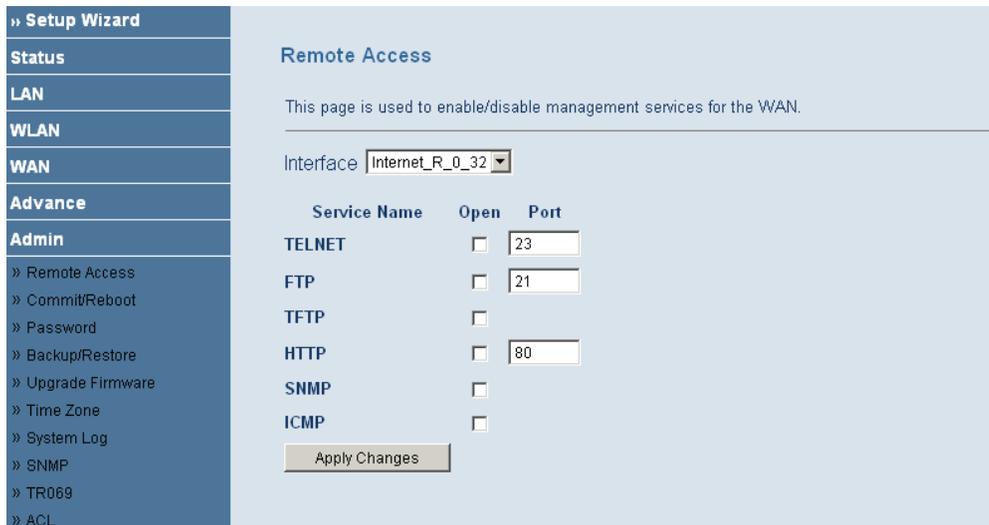


## 3.8 Admin

In the navigation bar, choose **Admin**. The **Admin** page that is displayed contains **Remote Access**, **Commit/Reboot**, **Password**, **Backup/Restore**, **Upgrade Firmware**, **Time Zone**, **System Log**, **SNMP**, **TR069**, **ACL**, and **Logout**.

### 3.8.1 Remote Access

Choose **Admin > Remote Access**. The page shown in the following figure appears. You can enable or disable the services which are used by the remote host. For example, if TELNET service is enabled and the port is 23, the remote host can access this router by telnet through the port 23.



### 3.8.2 Commit/Reboot

Choose **Admin > Commit/Reboot**. The page shown in the following figure appears. In this page, you can set the router reset to the default settings or set the router to commit the current settings.

The following table describes the parameters of this page.

Field	Description
reset to default settings	Select it to reset the router to the default settings.
commit current settings	Select it to save the current settings and reboot the router.
Reboot	Reboot the router.

### 3.8.3 Password

Choose **Admin > Password**. The page shown in the following figure appears. In this page, you can change the password of the user, including admin and user. By default, the super user name and password are **admin** and **smcadmin**. The common user name and password are **user** and **user**.

The following table describes the parameters of this page.

Field	Description
User Name	You can choose <b>admin</b> or <b>user</b> .
Old Password	After selecting the user name, enter the corresponding old password of the

Field	Description
	user.
New Password	Enter the password to which you want to change the old password.
Confirmed Password	Enter the new password again.

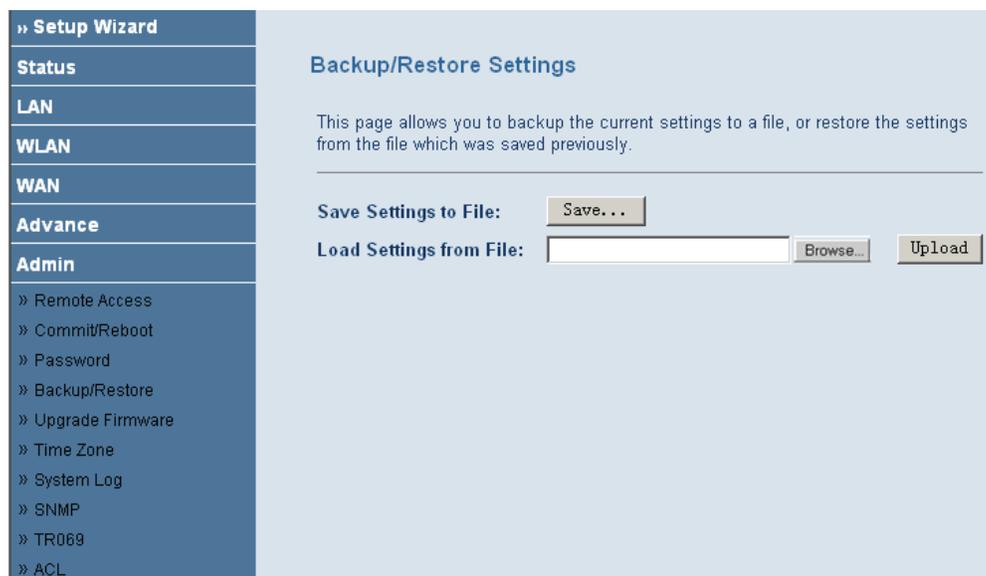
### 3.8.4 Backup/Restore

Choose **Admin > Backup/Restore**. The page shown in the following figure appears. In this page, you can backup the current settings to a file and restore the settings from the file which was saved previously.



**Note:**

Do not turn off your router or press the **Reset** button while these procedures are in progress.



The following table describes the parameters and buttons of this page.

Field	Description
Save Settings to File	Click it and select the path. Then you can save the configuration file of the router.
Load Settings from File	Click <b>Browse</b> to select the configuration file.
Upload	Select the configuration file of the router. Click <b>Upload</b> to begin restoring the router configuration.

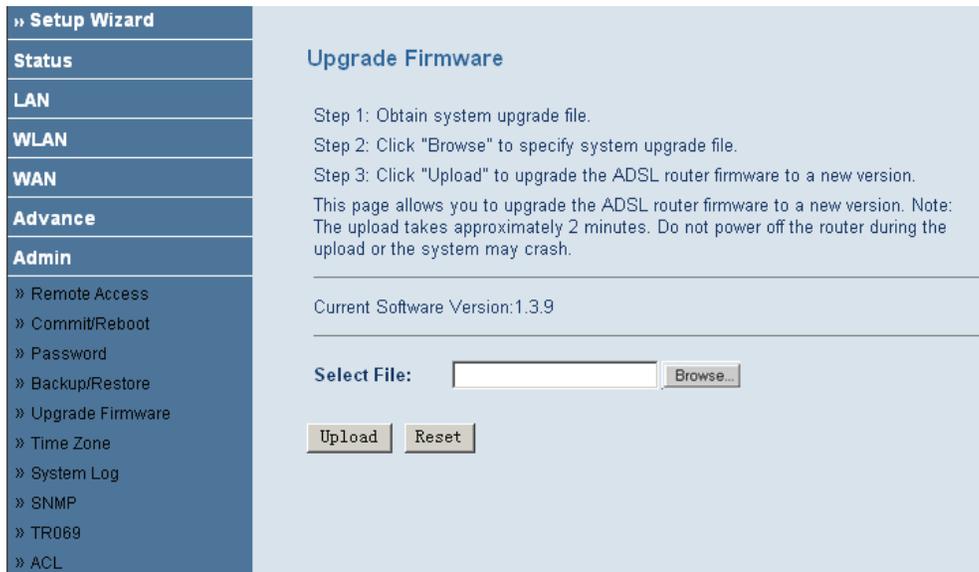
### 3.8.5 Upgrade Firmware

Choose **Admin > Upgrade Firmware**. The page shown in the following figure appears. In this page, you can upgrade the firmware of the router.



**Note:**

Do not turn off your router or press the **Reset** button while this procedure is in progress.

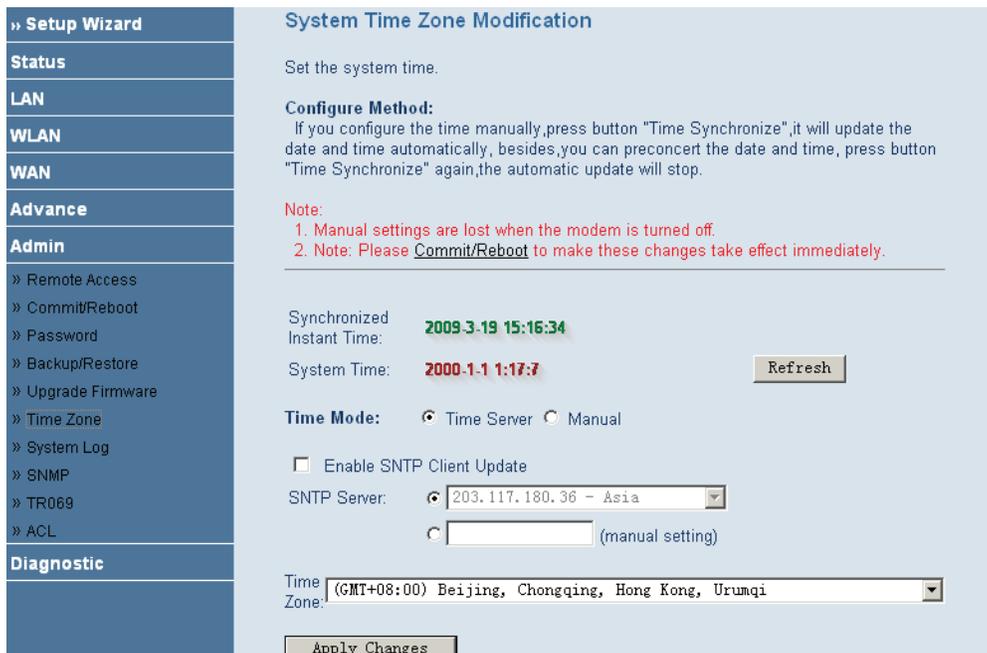


The following table describes the parameters and buttons of this page.

Field	Description
Select File	Click <b>Browse</b> to select the firmware file.
Upload	Select the firmware file and click <b>Upload</b> to begin upgrading the firmware.
Reset	Click it to begin selecting the firmware file.

### 3.8.6 Time Zone

Choose **Admin > Time Zone**. The page shown in the following figure appears. In this page, you can set the system time manually or get the system time from the time server.



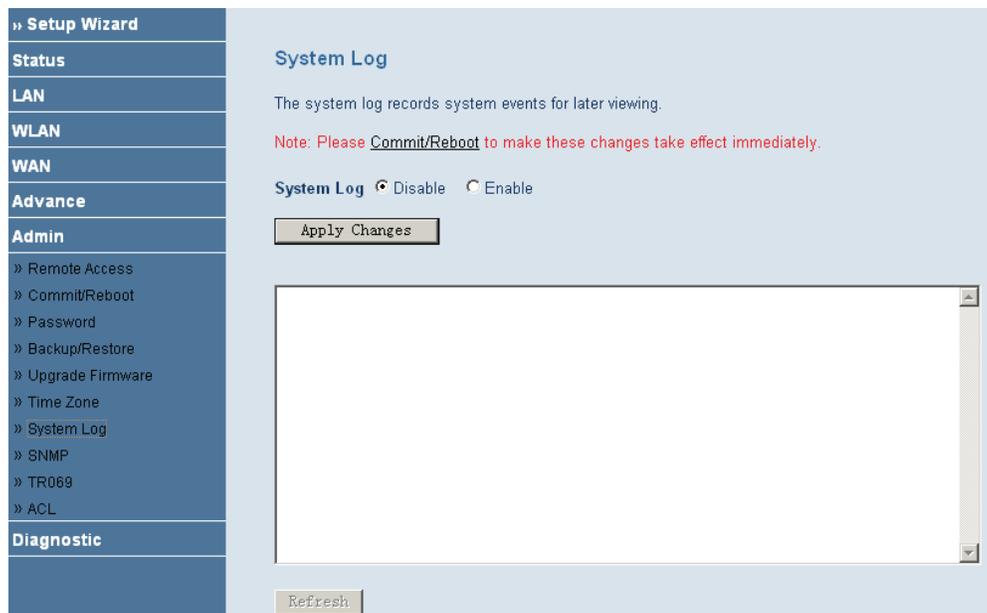
The following table describes the parameters of this page.

Field	Description
-------	-------------

Refresh	Refresh the system shown in the page.
Time Mode	You can choose <b>Time Server</b> or <b>Manual</b> . <ul style="list-style-type: none"> <li>● Select <b>Time Server</b>, the router gets the system time from the time server.</li> <li>● Select <b>Manual</b>, you should configure the system time manually.</li> </ul>
Enable SNTP Client Update	Select it, you can choose the correct SNTP server which you want.
SNTP Server	Choose the SNTP server from the drop-down list box.
Time Zone	Select the time zone in which area you are.

### 3.8.7 System Log

Choose **Admin > System Log**. The page shown in the following figure appears. In this page, you can enable or disable the system log function. You can also view the system log.



The following table describes the parameters and buttons of this page.

Field	Description
System Log	You can enable or disable the system log function.
Apply Changes	Save the settings of this page.
Refresh	Refresh the system log shown in the textfield.

### 3.8.8 SNMP

Choose **Admin > SNMP**. The page shown in the following figure appears. In this page, you can set the SNMP parameters.

» Setup Wizard
Status
LAN
WLAN
WAN
Advance
Admin
» Remote Access
» Commit/Reboot
» Password
» Backup/Restore
» Upgrade Firmware
» Time Zone
» System Log
» SNMP
» TR069
» ACL

### SNMP Configuration

This page is used to configure the SNMP protocol.

Trap IP Address

Community name (read-only)

Community name (write-only)

The following table describes the parameters and buttons of this page.

Field	Description
Trap IP Address	Enter the IP address of trap IP. The trap information is sent to the host.
Community name (read-only)	The network administrators must use this password to read the information of this router.
Community name (write-only)	The network administrators must use this password to configure the information of the router.

### 3.8.9 TR069

Choose **Admin** > **TR069**. The page shown in the following page appears. In this page, you can configure the TR-069 of the router.

» Setup Wizard	<b>TR-069 Configuration</b>
Status	This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters. <i>Note: Please <a href="#">Commit/Reboot</a> if you want to make this settings effective immediately.</i>
LAN	
WLAN	
WAN	
Advance	
Admin	
» Remote Access	
» Commit/Reboot	
» Password	
» Backup/Restore	
» Upgrade Firmware	
» Time Zone	
» System Log	
» SNMP	
» TR069	
» ACL	
Dagnostic	
	<p><b>ACS</b></p> <p>URL: <input type="text" value="http://"/></p> <p>User Name: <input type="text" value="username"/></p> <p>Password: <input type="text" value="password"/></p> <p>Periodic Inform Enable: <input type="radio"/> Disabled <input checked="" type="radio"/> Enabled</p> <p>Periodic Inform Interval(s): <input type="text" value="300"/></p> <hr/> <p><b>Connection Request</b></p> <p>User Name: <input type="text"/></p> <p>Password: <input type="text"/></p> <hr/> <p><b>Debug</b></p> <p>ACS Certificates CPE: <input checked="" type="radio"/> No <input type="radio"/> Yes</p> <p>Show Message: <input checked="" type="radio"/> Disabled <input type="radio"/> Enabled</p> <p>CPE Sends GetRPC: <input checked="" type="radio"/> Disabled <input type="radio"/> Enabled</p> <p>Skip MReboot: <input checked="" type="radio"/> Disabled <input type="radio"/> Enabled</p> <p>Delay: <input type="radio"/> Disabled <input checked="" type="radio"/> Enabled</p> <p>Auto-Execution: <input type="radio"/> Disabled <input checked="" type="radio"/> Enabled</p> <p>CT Inform Extension: <input type="radio"/> Disabled <input checked="" type="radio"/> Enabled</p> <p><input type="button" value="Apply Changes"/> <input type="button" value="Undo"/></p> <hr/> <p><b>Certificate Management:</b></p> <p>CPE Certificate Password: <input type="text" value="client"/> <input type="button" value="Apply"/></p> <p>CPE Certificate: <input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upload"/></p> <p>CA Certificate: <input type="text"/> <input type="button" value="Browse..."/> <input type="button" value="Upload"/></p>

The following table describes the parameters and buttons of this page.

Field	Description

### 3.8.10 ACL

Choose **Admin > ACL**. The page shown in the following figure appears. In this page, you can configure the IP address in the access control list. If ACL is enabled, only the effective IP addresses in ACL can access the ADSL router.

**ACL Configuration**

If ACL is enabled, then only devices with the specified IP addresses can access ADSL router.  
 Step 1: If you want to enable ACL, please choose "Enable" then press "take effect";  
 Step 2: Configure the ACL;  
 Step 3: Press "take effect" to enable the configuration.

**Note:** If you choose "Enable" in ACL Capability, please make sure that your host IP is in ACL before it takes effect.

**ACL Capability:**  Disable  Enable

**Enable:**   
**Interface:** LAN  
**IP Address:** 192.168.2.55

**ACL List:**

Select	state	Interface	IP Address
<input type="radio"/>	Enable	LAN	192.168.2.55

The configuration in this page has changed, press "take effect" to take effect.

- Step 1** Select **Enable** and click **take effect**.
- Step 2** Configure the ACL.
- Step 3** Click **take effect** to take the configuration effect.



**Note:**

If you select **Enable** in ACL Capability, ensure that your host IP address is in ACL list before it takes effect.

## 3.9 Diagnostic

In the navigation bar, choose **Diagnostic**. The **Diagnostic** page that is displayed contains **Ping**, **ATM Loopback**, **ADSL**, and **Diagnostic**.

### 3.9.1 Ping

Choose **Diagnostic** > **Ping**. The page shown in the following figure appears.

**Ping Diagnostic**

This page is used to send ICMP ECHO\_REQUEST packets to a network host. The diagnostic result will then be displayed.

**Host Address :** 0.0.0.0

The following table describes the parameters and buttons in this page.

Field	Description
Host Address	Enter the IP address.
Go !	Click it to begin to Ping the host address.

### 3.9.2 ATM Loopback

Choose **Diagnostic > ATM Loopback**. The page shown in the following figure appears. In this page, you can use VCC loopback function to check the connectivity of the VCC.

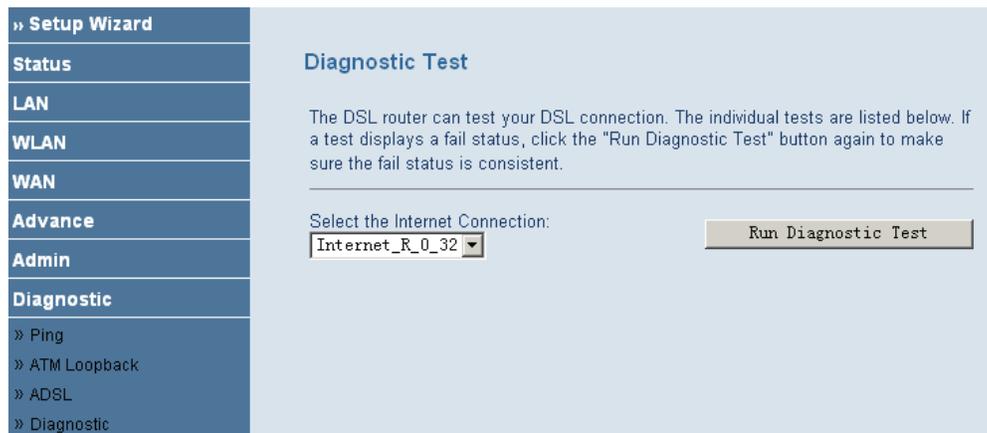
### 3.9.3 ADSL

Choose **Diagnostic > ADSL**. The page shown in the following figure appears. It is used for ADSL tone diagnostics.

Click **Go!** to begin ADSL tone diagnostics.

### 3.9.4 Diagnostic

Choose **Diagnostic**. The page shown in the following figure appears. In this page, you can test the DSL connection.



The screenshot shows a web interface for a DSL router. On the left is a vertical navigation menu with the following items: » Setup Wizard, Status, LAN, WLAN, WAN, Advance, Admin, Diagnostic, » Ping, » ATM Loopback, » ADSL, and » Diagnostic. The 'Diagnostic' item is highlighted. The main content area is titled 'Diagnostic Test' and contains the following text: 'The DSL router can test your DSL connection. The individual tests are listed below. If a test displays a fail status, click the "Run Diagnostic Test" button again to make sure the fail status is consistent.' Below this text is a form with the label 'Select the Internet Connection:' and a dropdown menu showing 'Internet\_R\_0\_32'. To the right of the dropdown is a button labeled 'Run Diagnostic Test'.

Click **Run Diagnostic Test** to begin testing.

# Appendix A

## Questions & Answers

This section describes common problems you may encounter and possible solutions to them. The Barricade can be easily monitored through panel indicators to identify problems.

**1. Question: Why all LED indicators are off?**

Answer:

- Check the connection between the power adaptor and the power socket
- Check the power switch is on or not

**2. Question: Why LAN LED is not lighting?**

Answer:

- Check the connection between the ADSL modem and your computer or Hub/Switch
- Check your PC or Hub/Switch running status and make sure them are working normally.

**3. Question: Why ADSL LED is not lighting?**

Answer: Check the connection between the ADSL “line” port and the wall jack.

**4. Question: Why cannot visit Internet with ADSL LED is on?**

Answer: Make sure following information has been input correctly:

VPI/VCI

User/password.

**5. Question: Why cannot open the Modem configuring web page?**

Answer:

Follow below steps to check the communication between the computer and Modem:

Click start -> run (input ping demands)-> Ping 192.168.2.1 (MODEM IP address).

If cannot reach the modem, please check following configuration:

- The type of the network cable
- The connection between the modem and computer
- You computer's TCP/IP configuration

6. **Question: How to load the default setting after incorrect configuration?**

Answer:

Press "reset" button 5s-10s to load the default configuration. The modem's default IP address:  
192.168.2.1/255.255.255.0,

Username/password: admin/smcadmin

# Appendix B

## Technical Specifications

### External Connectors

- 1 push power switch
- 1 DC power jack
- 1 factory reset button
- 4 LAN 10/100M Auto MDI/MDIX RJ45 ports
- 1 WAN RJ11 DSL port

### Protocol Feature

#### Bridging/Routing

- RFC 1483 Bridge
- IEEE 802.1D transparent bridging
- Bridge Filtering
- RFC 1483 Router
- RIP 1 & 2 supported
- DHCP (RFC1541) Server, Relay
- Network Address Translation (NAT)/ Network Address Port Translation (NAPT)
- DNS relay
- IGMP v1 and v2

#### Encapsulation

- RFC 1483 router/bridge
- PPPoA
- PPPoE
- MER

### ADSL Feature

- Support ANSI T1.413 Issue2
- Support ITU G.992.1(G.dmt) Annex A
- Support ITU G.992.2 (G.lite) Annex A
- Support ITU G.992.3 ADSL2(G.dmt.bis) Annexes A, L, M
- Support ITU G.992.4 ADSL2(G.lite.bis)
- Support ITU G.992.5 ADSL2plus

## **Ethernet Feature**

- Fully compliant with IEEE802.3/802.3u auto-negotiation function
- Support 10base-T, 100base-TX
- Support half duplex, full duplex
- Support back pressure flow control for half duplex, IEEE802.3x flow control for full duplex
- Support MDI/MDIX auto cross

## **Management Support**

- Support WEB/TFTP mode which use as native and long-distance edition upgrade
- Support test estate of circuitry connect (Diagnostics)
- Support WEB interface setting
- Support Telnet CLI command line
- Support user setting the reset fuction: hardware reset or WEB interface mode
- Support configuration files backup and resume function
- Support LAN port IP address amend function
- Support System LOG function
- Support SNMP V1/V2C native and long-distance control (MIB II RFC1213/ADSL line MIB RFC 2662 ATM MIB RFC 2515)
- Support SNTP enactment

## **Security Support**

- Support firewall function
- Support the passwords of two grades of users and can be revised
- Support and sign electronically the function (prevent the different kind of editions from upgrading each other)
- Support DOS (Denial of service) which detect & protect a number of attacks (such as SYN/FIN/RST Flood, Smurf, WinNuke, Echo Scan, Xmas Tree Scan)
- Packet filter based on IP and port
- Access control based on MAC
- PAP, CHAP authentication

## **Environment**

- Operating temperature: 0°C to 40°C (32°F to 104°F)
- Storage temperature: -20°C to 70°C (-13°F to 131°F)
- Operating humidity: 10%~85% Non-Condensing
- Storage humidity: 5%~95% Non-Condensing
- External adapter spec: Input: AC220V, 50Hz. Output: 12V DC, 1000 mA(min)
- Dissipation: 7W (max)

# Appendix C

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Version 2, June 1991

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